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ABSTRACT

This review of the literature on in-service teacher education focuses on two points: 1) the teacher as an individual in the process of change and 2) the variables necessary to promote change. The introduction presents the purpose and types of in-service programs as well as current practices and assumptions surrounding the programs. Some of the variables discussed are evaluation of student achievement and teacher improvement; the design and format of the programs; teacher attitudes, beliefs, and involvements; selection of schools. The review stresses that variables related to altering in-service teacher education programs are the same or similar to those of any other social organization engaging in change. Therefore, the change process is discussed, identifying factors such as communication, resistance to change, environmental factors, change agents, inhibitors, and facilitators. The last section deals with the question of evaluation and presents personal reflections on in-service teacher education. References and bibliography are included. (BRB)

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FINAL REPORT
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VARIABLES AFFECTING CHANGE IN INSERVICE TEACHER EDUCATION

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Preface:

The problem of lag in the introduction of research findings at the operational level is not unique to education. However, most researchers would agree that the lag in education is greater than in other enterprises.

Those responsible for directing educational resources, as they relate to inservice education, are interested in data which will enable them to make more adequate decisions in the allocation of resources. Thus, the question: "What variables appear important in changing traditional inservice training procedures?" The focus of the question is on two critical elements. One is the human equation involving teachers already in service. The second element relates to variables affecting change in inservice training procedures which implies changes in the behavior of teachers and ultimately the complex teaching-learning equation.

The report which follows is an attempt to identify variables affecting change in inservice teacher education. The report does not provide answers or proposals. The effort is essentially a review of literature published during the last twenty years. Fugitive documents and unpublished reports and papers were also reviewed. The report focuses on "what is" as well as those elements of historical nature which contribute to the establishment of a "critical distance" so necessary in planning for change.

The data collection process, concerning variables affecting change in inservice teacher education, utilized numerous sources in conducting a search of the literature. Among the sources utilized were:

1. DATRIX (Direct Access to Reference Information)
2. SRIS (School Research Information Service)
3. DDC (Defense Documentation Center)
4. ERIC (Including RIE, Research in Education and CIJE, Current Index to Journals in Education)
5. ERIC (Computer Search, North Carolina Science and Technology Research Center)
6. Standard Reference Documents such as:
   (a) The Education Index
   (b) Research Studies in Education (Phi Delta Kappa)
   (c) The Review of Educational Research

(d) Encyclopedia of Educational Research

(e) International Encyclopedia of the Social Sciences

(f) Education Documents Index, Vol. I and II

7. Bibliographies of published works on change and inservice education

8. Personal correspondence

The general procedure utilized in the selection of material for the review of literature pertaining to variables affecting change in inservice teacher education included the following phases:

1. Organization

2. Data Collection

3. Analysis

4. Synthesis and delimitation

5. Organization and preparation of the report

Numerous individuals were involved during the several phases. Among those making significant contributions were Wil J. Smith and Frederick Zeller of the Division of Social and Economic Development of West Virginia University. The general structure of the literature search and several areas of the search were contributed by Smith and Zeller. In addition, they contributed significantly to the reference sources located in the appendix of the report.

The reference staff of the West Virginia University Libraries provided constant assistance. Among those making significant contributions were: Clifford C. Hamrick, Barbara J. Mertins, Florence A. Taylor and Jennie L. Cushard. Mr. Robert L. Murphy, specialist in document searches and engineering librarian aided the project by organizing requests and obtaining required computer searches.

The report is organized in several main sections including a general review of the topic, a state of the art report, reports of selected research, selected variables, the change process with sub topics identifying critical factors such as resistance to change, change theory, the communication process, time, learning, environment, maintenance of change, the question of facilitators and inhibitors and change agents.

The final section addresses the question of evaluation, considered by many to be one of the most critical variables affecting change in inservice teacher education.

The report has been limited in scope by design and contract. To aid those who desire more information in greater breadth and depth, a selected reference section has been included.

Hopefully the report will provide a basis for the identification of those variables which will aid efforts of inservice teacher education to be more efficient and economical.

Variables Affecting Change in Inservice Teacher Education

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I. Introduction:

Inservice education programs of the mid-nineteenth century provided the beginnings of the preservice programs of today. The goals, missions and objectives of the early years of teacher education were far different than those of today. A review of the history of teacher education provides a perspective of a movement from the basic education of teachers with little formal education, to the highly complex system of today staffed largely by college graduates.

The interrelationship between education and social change is striking and places inservice educational programs in perspective. When a society is in a stage of rapid and constant change, education is conceived as a factor of change and challenge. And the critical variable in the change process is the teacher. If educational programs are to be changed, then the personnel of the system must be changed. If education is to serve the constantly changing social milieu, we must realize the problem is social and psychological in nature and of significant consequences.

Unfortunately, as John Goodlad reminds us, education is probably the only large-scale enterprise that does not provide for the systematic updating of the skills and abilities of its employees. Teachers are generally on their own in updating their skills with little in their preservice background to prepare them for continual learning and growth.

When inservice programs are offered they are generally designed by administrators. Interpretation of the research findings by O'Hanlon and others suggests that teachers find most programs inadequate for their needs.

Preservice education, regardless of quality or length, no longer suffices in view of the radical changes which have been and will probably continue to intervene.

Not only do teachers find inservice programs inadequate but research seems to verify this conclusion. Typical of the reports was one by Kennedy (p. 84) which states: "The obvious conclusion emanating from this research effort

was that the effectiveness of inservice instructional programs could not be verified on the basis of criterion bariable analysis." Thus the study reported "no significant difference." The question surfaces again: "What variables affect change in inservice teacher education?" (See also Miles, p. 169)

Most of the literature on inservice teacher education does not deal with variables in a research mode. In fact, as noted in the NEA Research Division's report on inservice teacher education, prior to 1953 most of the literature was largely opinion and recommendation. (p. 3)

One can conclude that there has been little substantive research on inservice teacher education. There is a vast literature on "how to do it" but little research and evaluation to note whether "it did do it."

The emphasis in inservice teacher education and education in general has been on "doing something" with faith something "good" would accrue. The determination of those variables which make a difference is an extremely difficult task. Yet, as Rubin (p. 3) reminds us, "Educators in the last analysis must be responsible for their own strengths and weaknesses."

One conclusion reached in the review of literature concerning inservice teacher education and change is that the variables involved concern the behavior of individuals in a social-psychological environment. A second conclusion reached concerns the change process. The variables related to altering traditional inservice teacher education programs are the same or similar to those of any other social organization that engages in change. Therefore, the body of literature to which many leading educational change agents refer are those studies in strategies of change and the change process itself. It is in this body of literature, including case studies of bureaucratic structures by Miting Morison, Barnett, Bennis, Chin, Geis and others, that the significant criterion variables will be located. A major portion of the report which follows concerns literature devoted to the change process.

Buskin, in his review of inservice training, states that if measurable change in both teacher and student is desired far more must be known about such training. The literature review and analysis focuses on this goal.

Purpose of Inservice Training:

It seems necessary to provide a review of the purpose or purposes of inservice teacher training or education as a base to determine which variables relating to change are valid.

There are two interesting observations about the purpose of inservice training. Asher (p. 1-2) notes that "historically inservice education was invented to correct serious deficiencies in pre-service education." As pre-service training developed into professional college preparation, the concept of inservice education shifted to the function of training and retraining the teacher as a means of remaining current with the most recent innovations in education, science and technology. The second observation, in addition to the change in emphasis in inservice programs, is that there is a great diversity of purpose in programs today. This diversity increases the matrix of potential variables affecting change unless there are certain constants which can be identified not only in offerings but in the change process itself. The present search provides information indicating the possibility there are constants and certain selected principles related to change.

The purpose of inservice varies according to answers to questions such as: Which teachers are to be trained?; What is to be taught?; Is the training for specialized units?: Is it for retraining?; Is it additional training?; or Is it for upgrading and preparation for another position? (UNESCO p. 27-28)

There are many different levels of professionals within the educational organization today including para-professional, associate teacher, staff teacher, senior teacher and master teacher. Each individual at each level has different needs. Thus, the purpose varies from individual to individual, from level to level and from school to school. (Stillwell, p. 44)

The prime purpose of inservice training according to several studies, (UNESCO; Kielty; and Westby-Gibson), is to change educational practice but most importantly to upgrade and improve classroom instruction.

Kielty identifies a series of specific purposes or outcomes of inservice training for those involved in adult education such as: the development of a greater depth of understanding of the basic principles that underlie good classroom instruction and performance, increased awareness of specific skills which might enhance the teaching techniques utilized for the teaching of specific content and a broader understanding of the characteristics, general background and way of life of the students that the teacher will be teaching. No mention is made of the criteria for measuring the attainment of these or the preceding goals.

Identified in several references is the statement that the intent of inservice education is to change

instructional practices or conditions by changing people. (Harris) Other proponents and researchers state that "the need for inservice teacher training is brought about when changes introduced in curriculum and instruction are so far-reaching that teachers cannot cope with them without retraining." (Wallen, p. 45)

The majority of the writers state or imply that professional growth activities are most effective when they include well conceived purposes as well as carefully planned procedures and evaluative techniques. The question raised in a number of reports investigating inservice teacher education concerned the question: "Who determines the purpose?" Apparently this is a critical variable. It will be discussed later in the report.

In addition to the general statement of purpose noted above, a number of specific purposes for inservice education have been identified. (N.E.A. Research Division, p. 4-5)

1. The new teacher.
2. The teacher undertaking a new type or level of work.
3. Refresher courses for teachers returning to the classroom after an absence of some years.
4. Promotion of continuous improvement of teaching and teachers.
5. Provide a means for teachers to keep up with the advances in the theory and practice of teaching.
6. Provide a means of upgrading teachers in selected subject matter and content.
7. Provide a means to attain basic curricular changes, approaches to instruction and the total learning conditions of the school.
8. As a means of coordinating the total educational effort by staff, administration and the community.

Other purposes may include improvement of specific competencies, increasing knowledge in new or emerging areas of science, technology, social sciences and the theory of instruction, reducing new knowledge and theory to practice, converting professionals trained and experienced in other areas or fields, upgrading the skills and techniques of those who have regressed in their area of teaching, upgrading the competencies of teachers who have been inadequately prepared and providing training in the utilization of paraprofessionals and others. (Katz, p. 883)

Selected Perceptions:

How one views the purposes of inservice education determines the criterion variable for evaluation and assessment and also determines evaluation techniques. Amidon (p. 257) conceives of inservice training as a problem-solving process which explores new ways of teaching, new materials that can be used, new content that can be covered, and new ways of helping the teacher control his own behavior for professional purposes.

Amidon believes that inservice programs should be continuous and not a single shot taken at the beginning of the year. This implies continuous assessment and evaluation and the identification of new or alternative variables. The time frame is different and the goals are different.

The concept of inservice education as a process for change, specifically planned change, is stated by Harris (p. 15-16) as a generalization for analysis of inservice programs. Harris also structures his inquiry on the basis that inservice education takes place in an organizational context. Organizational changes, Harris notes, take place through personnel development.

The question of who is responsible for personnel development is a key issue in the literature of inservice education. The literature supports the conclusion that there is a rather direct relationship between the type of inservice program provided and the success of the program. The significant variable is apparently teacher involvement.

Types of Inservice Programs:

One writer in discussing inservice programs stated they are carried on in multitudinous ways. It could also be said that inservice programs range from buzz sessions to team teaching. The literature seems to support the probability that there are as many approaches to inservice teacher education as there are individuals involved in preparing and offering inservice work.

With few exceptions, the validity of type and procedure has not been researched. The concern for and research related to types of inservice programs seems to be on a continuum ranging from administrator-NEA sponsored programs with little or no evaluation or assessment through teacher designed programs, college or university programs to national curricular projects and specially designed programs attempting to identify critical elements in the change process.

Many programs are developed around themes such as "individualizing instruction", "improving the mental health of the classroom" or "teaching for creativity." (Amidon, p. 256)

Ordinarily the literature supports the contention of Bhaerman (p. 2) that most inservice programs are not based on a total educational philosophy. In fact, the question of "what to teach" and "why" is largely absent from discussions of inservice educational programs. Most programs originate from the administrative suite and are concerned with the operational mode of the educational enterprise. The philosophy generally advanced is that it is the individual teacher's responsibility to maintain professional level competency and to adapt to new innovations.

Most reports on inservice programs cite the negative response of teachers. Several reasons are given for this action, which are fairly typical of the literature and identify several possible variables.

1. Inappropriate activities--selected without regard for purposes to be achieved.

2. Inappropriate purposes--a failure to relate in-service programs to the genuine needs of staff participants.

3. Lack of skills among program planners and directors who design and conduct instructional improvement efforts.

Typical of the type of inservice activities planned by a central source and dependent on the initiative of the teacher in attaining an improvement in instruction are:

1. One-week orientation periods prior to the opening of school.

2. Summer workshops.

3. Building a professional library.

4. Regularly scheduled faculty meetings.

5. Teacher committees on curriculum development.

6. Community surveys.

7. Faculty committees studying school problems.

8. Teachers visiting classes of other teachers.

9. Special induction programs for new teachers.

10. Small study groups working on curriculum. (NEA RES. DIV. pp 12-13)

The NEA provides, from other studies, a comprehensive list of activities typical of areas considered to be related to inservice. Included are: extension courses, summer school, correspondence courses, institutes, conferences, workshops, staff meetings, committee work, professional reading, individual conferences, visits and demonstrations, field trips, travel, camping, work experience, teacher exchange, research, professional writing, professional association work, cultural experiences and community organization work. (p. 7)

The National Schools Project (Williams, p. 41) utilized teachers in the planning and encouraged them to generate and field test their own innovative ideas in carrying out the project model. Thus we discover that the type of inservice program offered will depend to a large extent on where it originates. This becomes a critical variable in changing traditional inservice teacher education. If one views inservice education only by type and attempts to identify critical change variables within types it is doubtful if the proper questions will be identified. Amidon (p. 256) suggests that there are two important questions that can be asked of any inservice training program, regardless of its origins, emphasis or point of view.

1. Will teachers be acting differently as teachers in the classroom as a direct result of the inservice training?

2. If there are changes in the behavior of the teacher has the quality of instruction really improved or is it just different?

In the identification of variables affecting change in inservice teacher education, questions such as these probe the essential elements. For instance, the educational establishment has for years operated Friday evening and Saturday morning courses for full-time teachers who commute from their home area to a college or university some distance away. Examination of this type of inservice credit and degree oriented inservice program on the basis of the above questions provides insight as to why consideration of planned programs with built in evaluation is crucial if change is desired.

Current Practice--Assumptions:

The variables in the inservice equation can be grouped into a number of broad categories including human factors, change, learning and the social environment. How each of these areas interrelate and which variables are most critical in changing traditional inservice programs will depend upon one's assumptions about each and assumptions about the total matrix. The design of the inservice program and the utilization of resources is altered if it is concluded that the

first two years of a teacher's experience are the most crucial. Rubin (p. 4) believes this to be so based upon his research. He believes that it is during this period that attitudes and beliefs are shaped and the basic characteristics of the teaching style established. This same research provided evidence suggesting:

> ....that teachers cannot learn to teach until they begin to work with children who are learning; it is in these first interactions that a fundamental sense of purpose and method is born.

Although the content of most inservice programs is determined by administrators, Edmonds (p. 35) believes the teacher is the source of content. Edmonds would support Rubin's conclusions and place emphasis on developing programs which provide the means for an individual to grow and develop insight so he can identify progressively his competency needs. Edmonds then assumes that this is best accomplished after teachers enter service and can come only with education.

Present practice stresses that in a professional life intelligent training assumes intellectual training. There seems to be support for the position that "a program which seeks to develop a particular teaching skill ought, at the same time, to incorporate the related theoretical ideas." (Rubin, p. 11)

In addition to integrating theory and practice other variables concern the integration of three components of the teaching-learning equation, namely, knowledge of subject, knowledge of teaching method, and knowledge of child. The research seems to provide evidence that inservice training programs should not be attempted unless they are well planned, comprehensive and integrated programs with specific identifiable objectives.

Also, it is possible to relate other assumptions which alter the problem of identifying variables. Flanders included several assumptions in his project which provide a base for designing inservice programs. Flanders assumed:

1. Only a teacher can change his own behavior.
2. Changes can occur in teaching method.
3. No one pattern of teaching can be adopted universally by all teachers.
4. The most effective environment for change allows for freedom of people to express their feelings and ideas, encourages self direction and is free of coercion.

One basic assumption stressed by numerous researchers in the field of change and inservice teacher education is that the processes of inservice education are fundamental to producing change in education. In addition, Edmonds (p. 17) and others believe that the significant element is "personal growth" on the part of those involved in the educational enterprise. Almost all who make this assumption also assume that inservice teacher education is a teaching-learning process and would support Bradford's conclusion, based on present research and experience with processes of learning and changing:

> 1. That the teaching-learning process is a human transaction involving the teacher, learner and learning group in a set of dynamic relationships. Teaching is a human relational problem....The relationships among learners and between teacher and learners have a great deal to do with the ultimate learning.
>
> 2. That the target of education is change and growth in the individual and his behavior; and thus in his worlds. This is a deeper and broader goal than cognitive learning only.

Why inservice programs do not change and why they do not provide change can be understood when one reviews some of the assumptions people hold about change. Lavisky reviewed these and found:

> 1. ....people contend that a good product or a good idea will succeed on its own merits.....that if a research report shows a better way of reaching an educational objective, that teachers will automatically tread the new path. Experience shows otherwise.
>
> 2. ....people believe change is linear in nature, that is, that it proceeds in stages from research to development to tryout, to adoption, to utilization. Change is not linear.
>
> 3. ....the belief that when someone is successful in getting an educational innovation adopted the job is complete--that no further action is required.

Lavisky (p. 5) advises observers of the inservice training scene to "look into the classrooms and you will find teachers who, only a year or so ago, were singing the praises of T-Groups, Human Relations Sessions, and so forth, but now they have reverted to their old behaviors."

The idea that traditional inservice programs can be changed by "doing something different" is challenged by Amidon's

assumptions. (p. 260) In fact, the task becomes highly complex and requires a high level of intellectual effort. Amidon believes the following assumptions are largely ignored in current inservice training activities.

1. ....ideas about teaching and learning must be organized into concepts which have meaning in terms of overt behavior. Ideas about teaching which cannot be related to overt actions are less likely to maintain a consistent meaning when the talking stops and the teaching starts.

2. ....concepts about teaching and learning become useful to the extent that they can be applied personally. Concepts about teaching must ultimately be coordinated with one's own behavior. Concepts about pupil behavior must ultimately be applied to one's own class. Concepts about how to use instructional materials must ultimately be explored in one's own classroom.

3. ....insight into principles of effective teaching comes about through personal inquiry. Teaching must be seen as a series of acts which occur with the passage of time. Instantaneous decisions must be made which have immediate consequences. Teachers can learn to recognize decision points, to become aware of more alternatives, to predict consequences accurately a higher proportion of the time, and to develop plans for controlling their own authority.

Change:

Change and innovation are terms used interchangeably in educational literature pertaining to inservice education. Innovation is a more inclusive term, for it is possible to have change without innovation but not innovation without change. The question raised in the present literature review would seem to put more emphasis on innovation. However, in keeping with the use of the terms in the literature both terms will be used depending on their use in the literature cited.

The question of the present literature search is to identify those variables which affect change or innovation in inservice teacher education, both positively and negatively. As Gels (p. 3) notes, the record is bleak. In his review of the literature on educational innovation he developed some generalizations which provide insight as to where to look for the critical variables.

> ....The history of educational innovation, as we read it was dismal. It was marked by disappointment, disillusionment and despair, both on the part of the innovators and those for whom the innovations were intended. Repeatedly, under quite different conditions, innovations were introduced only to fail a short time later.

Gels' second generalization provides a perspective which points the direction toward areas of potentially critical variables. Gels notes that his team came away from their "study of innovation with the distinct impression that the school was, at best, an unhappy recipient of innovations, at worst, a highly conservative bureaucracy resistant to change and 'intensely' passive."

The interesting observation by Gels, however, is that the process "was, for the most part, a linear system; changes began in Schools of Education, in curriculum development projects or in special demonstration programs and flowed to the school." Studies of change, innovation and invention have, however, stated emphatically that change and innovation do not occur in a linear mode. The problem seems to be that educators think and plan in linear modes. When the programs failed to produce change most program planners shifted to another plan without determining why change did not take place. Bennis (p. 42) states that a deficiency in existing theories of social change is that they tend to be weak in describing and explaining the variables of the situation which are subject to manipulation. Several researchers have attempted to identify variables and elements subject to change. Westby-Gibson (p. 3) in discussing the subject reminds us that schools are formal organizations and can be changed in two ways: by changing their structures and by changing their personnel. Edmonds (p. 12) believes the elements of the school program which can be changed are: (1) the purposes of the school; (2) the physical environment; (3) the quality and quantity of instructional materials; (4) the content of the curriculum; (5) the organizational framework of the school; and (6) the performance and behavior of the professional staff. Edmonds continues his discussion by reminding us that the critical variable is the individual. He notes:

> Educational change is fundamentally dependent upon change in people's attitudes, understanding, skills and behavior. The changes which occur in terms of buildings, instructional materials, school organization, curriculum content, operational processes and school purposes are in reality but manifestations of change in the persons responsible for those elements of programming. (p. 16)

II. State of the Art:

During the last decade or so much effort has been extended to determine the best procedures for inservice teacher education. This research effort has been supported almost totally by the United States Office of Education.

This effort by the U.S.O.E. has made a major contribution toward answering questions about inservice teacher education. The summaries which follow are samples of the research effort and provide some measure of the state of the art. In general, the comments and statements have been reported in several research studies.

Most research studies on inservice teacher education conclude that when changes occur they are the result of a continuing program of training. Amidon (p. 261) discovered that "opportunities for applying new insights immediately in the classroom and for obtaining feedback about one's behavior were found to be helpful." The application phase of most studies seemed to incur the most difficulty. Mackie and Christiansen found that the research to application process never has been properly developed for the psychology of learning for instance. They believe the reasons are traceable in large part to the research philosophies of experimental psychologists as well as the fact that potential users have been reluctant to make the effort necessary to realize the benefits of the research findings.

Among the many efforts directed toward the concern of inservice teacher education, none is probably more directly related to the present search than the study done by Rubin. His project attempted to find relationships among some of the more important variables which might affect teacher growth. Rubin's findings corroborate with Amidon's, particularly with reference to the time variable. It was found that although "teachers are more effective when they have alternative strategies with which to teach a given lesson, <u>each of these strategies must be acquired systematically and each must be perfected through cumulative practice</u>." (Rubin, p. 13)

Williams designed an inservice program to sensitize teachers to new materials, knowledge and strategies for use in the classroom to systematically plan and develop creative thinking. The project involved an attempt to apply research findings by adapting them to regular classroom practices. The evidence presented found the teachers did benefit from the training.

Change of teacher attitudes and behavior was also reported by Butts in his work with science teachers. As

was noted previously behavior and attitude are closely correlated. Interestingly Bates reported that previous teaching experience and school location appeared to be unrelated to attitude change.

On the other side of the ledger, the CERLI program on training those who function as trainers in continuing education reported that the hypothesis that the training program effected behavioral changes enabling the participants to effectively function as Specialists in Continuing Education could neither be categorically accepted or rejected.

Perloff's study of the NDEA Summer Institute Program supports the previous reported research in relation to the time variable. She reports "that it is is probably unrealistic, and perhaps even unfair, to expect programs of the length, scope, and nature of summer institutes to make sweeping, radical and immediate changes in the participants' knowledge, attitudes, and teaching practices." Other research reports the necessity of involving the entire school when teaching practices are altered. Perloff identifies several additional variables in her recommendations derived from the study and, according to, her, applicable to all educational development programs. In summary they are:

1. Training programs must always be sensitive to the interests and needs of the participants. It was noted that data from Project I enabled the researchers to state unequivocally that the educational objectives and interests of teachers were at variance with those of faculty members and directors of the institutes.

Perloff believes this underscores a critical variable affecting change in inservice teacher education programs, namely, the importance of including participants in all program planning and development stages.

2. Training programs should be relevant to a major and significant part of what the participants themselves teach. It was concluded that topics which were esoteric, highly specialized or too remote from the usual school curriculum were a waste of time, effort and money.

3. The training should be practical in orientation. By this the researchers meant that it is important to develop a variety of materials which can be readily used by the participants in teaching, during training or when they return to their classrooms.

This finding supports the application to practice variable identified also by Amidon among others.

Research has also been done with reference to variables related to school size and inservice teacher education. Apparently larger schools do a more adequate job of inservice teacher education than do small schools. The most inadequate inservice programs occur in small secondary schools.

Good inservice teacher education programs on a continuing basis outside of on-going research studies and curriculum projects are the exception. Flanders (p. 137) notes that:

> ....In rare instances, which are magnificent exceptions, the improvement of instruction becomes an integral part of the teacher's professional world, a regularly scheduled activity with support and resources provided by the administration.

Flanders concluded after several years of working on a project designed to help teachers change their behavior "that educators have not really come to grips with the problem of helping teachers change their methods of instruction." Some of the variables with which designers of inservice programs must be concerned were identified during the course of Flanders' research. He found that learning new ideas about teaching evokes emotional reactions and shifts in attitudes. A program which recognizes this factor, plans for it and permits changes within the program to accomodate these elements will be more likely to produce desired changes in teacher behavior.

Consistency of method between the inservice program and the teacher's classroom must be maintained. Flanders states that "Investigating how teachers can create more independence in their own classrooms under a relatively rigid pattern of inservice instructor dominance creates an inconsistency which will interfere with learning."

A number of researchers stressed the need for inservice programs to provide a balance between theory and practice and the verification of theory in practice. Rubin and Flanders both support this principle. Flanders believes inservice training programs can provide conceptual and procedural tools necessary for teachers to experiment with their own teaching methods. While Rubin believes that teaching competence involves, among other things, knowledge of the ideas which are to be taught. The intellectual element is apparently a primary factor in successfully applying new teaching practices and theory.

If programs of inservice teacher education are to be successful in improving teacher competency, Rubin (p. 5)

found that in addition to the knowledge of the ideas which are to be taught, that the teacher must attain a mastery of teaching tactics which are most successful together with a valid system of beliefs about what the child is like and what he can do.

Other research provides evidence that wholistic, school based, total staff involvement type inservice programs are most effective. Several studies, including Rubin's, found that teachers make excellent trainers of teachers.

Flanagan's review of the Euclid English Demonstration Project reports with respect to inservice programs that:

1. The real work must be done within the departments. Outside experts are only temporary.

2. Ultimately the individual teacher must commit himself.

3. There must be a supportive environment within the department for individuals initiating change.

4. Leadership is necessary, particularly in the improvement of the curricula.

5. Support by the administration is essential.

One variable noted throughout the literature on inservice teacher education, particularly in those programs where evaluation was a strong component, was the finding that the more precisely a training objective was stated, the greater the probability the program would succeed.

In general, it can be concluded that most inservice education is at best loosely structured, without specific goals and operated on experience rather than research. Evaluation and assessment play minor roles in the typical inservice offering. The individual differences which educators discuss so frequently are ordinarily ignored in the design of inservice programs.

The present review of the literature provided no reference of any depth concerning personnel serving as trainers. One report noted that university personnel were poorly prepared to serve as trainers while administrators and supervisors seldom had the time necessary to devote to training. (Buskin, p. 23)

The great divergence of needs among teachers, schools and communities is a growing realization among educators planning inservice programs. Several attempts to meet the great variety of teaching conditions is under investigation in several pilot programs. The ad hoc contractual system for Teachers in the Technologies is an example. (Cohn)

III. Selected Approaches--Organization:

Research and program reports describing results of in-service teacher education programs make two points clear and in so doing identify two interrelated variables, namely, philosophy of education and organizational structure. These are in addition to variables discussed previously including factors such as: continuity of programs over time, resources allocated to the effort, teacher participation in program planning operation and evaluation and the specification of inservice objectives in measurable terms directed toward the improvement of instruction.

One conclusion can be stated with considerable finality If it is desired to change traditional inservice teacher education programs, then the organization structures must be altered to promote the proposed changes. Introducing new programs into old organizational structures interjects the element of failure from the beginning.

It is also obvious from the research, program reports and other references concerning change that change can be planned or unplanned. Some organizations are structured for planned change; others are structured to maintain the organization and its programs.

Directly related to organizational structure and change is the element of program and educational philosophy. These elements determine the types of programs offered, who plans the programs, the role of teachers, administrators and others in the planning and operation of an inservice program and, among other things, the purposes and goals of inservice programs. Focus on the issue is provided by Gois. (p. 7)

> It would seem that a system which is said to be devoted to developing in children problem-solving behaviors, creativity, and imagination should itself exhibit these activities. It should be a place in which exploration is a way of life, a place in which change is recognized as characteristic of life itself. From an instructional point of view, then, the educational institution should be the site of innovation.

Current literature in the area of cybernetics and systems provides some insight into organizations. Thomas in his discussion of decision making and organizations reminds us that school systems, as well as all organizational systems, are so

structured that any change in the performance of one part of the system will have some effect on the performance of other parts of the system. He notes that "just as human beings develop ways of receiving the world that help them to cope with the situations in which they find themselves, so do organizations learn to look at their world in ways that help them better to understand the forces that are constraining them." Thomas also states:

> Certain characteristics of organizational behavior seem to impede the learning of new ways of looking at the relevant aspects of the organizational environment.

How are inservice programs organized and what affect does organizational structure have upon program, goals, and the improvement of instruction? Asher (p. 13) classified inservice programs into three categories in his review. They were: (1) the centralized approach, (2) the decentralized approach and (3) the centrally coordinated approach. There are many variations, of course, to these gross categories.

The research on inservice teacher education supports Asher's conclusion that in "the centralized approach the central office dominates the inservice activities and gives little attention to the psychology of change, thereby ignoring a body of research which suggests that individuals are more likely to change when they work on problems significant to them and when they share in the problem solving decision." (Asher, p. 13)

The evidence is on the decentralized approach if concern is with change of the instructional program through inservice education. When the decentralized approach was used, Asher reports that changes as the result of inservice programs included: new guides and courses in subject areas; improved services to students; better student achievement; revised reporting systems; improved practices in teaching, grouping and long-range planning. Also noted were improvements in professional attitudes, better understanding of children, more exchange of ideas between teachers and a closer cooperation of faculties.

The decentralized approach is not without direction and Kielty reminds us that it is essential to have an organization which not only accomodates the human factors in planning and operating the inservice program but accomodates the many details which are purely mechanical, but carry important implications for the success of the inservice program.

What is needed is a concern for the whole as well as the parts. The following diagrams provide an overview of some of

the structural relationships which have been identified in the area of inservice education. The focus is on organization and the conclusion by Westby-Gibson that schools, as formal organizations, can be changed in two ways: by changing their structures and by changing their personnel.

Figure I Kielty

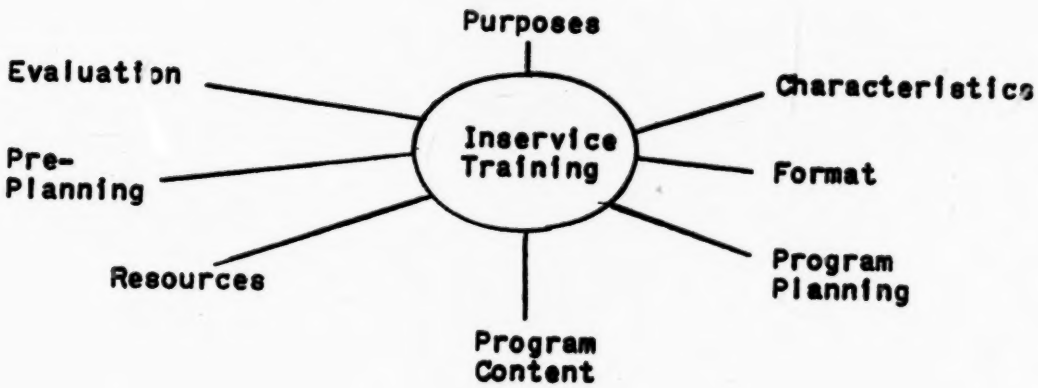
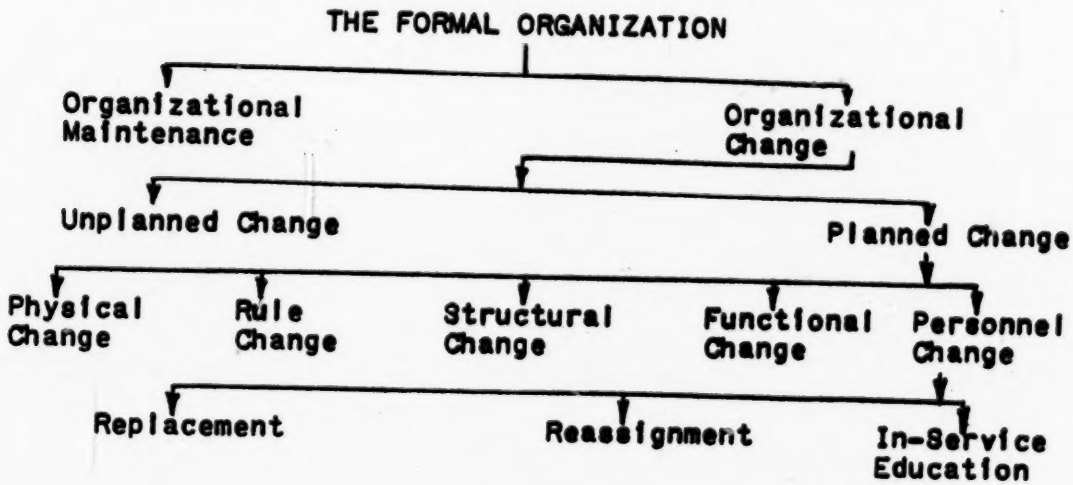


Figure II Bessent, p. 16

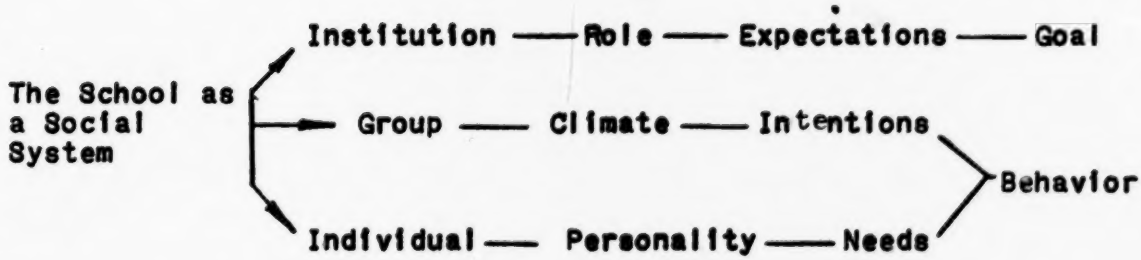
THE ORGANIZATIONAL CONTEXT FOR IN-SERVICE



Schools as formal organizations can be changed in two ways: by changing their structures and by changing their personnel. Jacob W. Getzels and Herbert A. Thelen (1960) proposed a framework for the study of the school as a social system that appears relevant here and is illustrated by the following diagram.

Figure III Westby-Gibson, p. 3

A MODEL FOR CHANGE


The School as a Social System
Institution — Role — Expectations — Goal
Group — Climate — Intentions
Individual — Personality — Needs
Behavior

IV. Selected Variables:

Inservice programs can focus on any single part of the educational enterprise or they can involve entire cities, counties or regions such as is exemplified by the Title I Project in Louisville, Kentucky. The wholistic approach, utilizes outside forces (federal money, consultants and other elements external to the on-going system), together with attempts to evaluate and structure the inservice program on the basis of performance objectives.

> Ninety percent of all teaching personnel will demonstrate increased sensitivity to the nuances of teacher-pupil interaction as measured by the gains on pre-to-post test scores on the Pupil Perception of Class Period instrument.

This procedure interjects numerous new variables which will directly affect in some way the question of: "How do we change traditional inservice teacher education programs?" There are, of course, other variables, already cited, which must be part of the program if it is to succeed. To date the evidence is not in.

Not all schools can approach the question of inservice teacher education as has Louisville and other large educational units. Small schools do not have the resources in personnel required to operate, without outside help, successful inservice programs. O'Hanlon (p. 10) suggests that one way of expanding the small schools' resources is through a number of small schools banding together for inservice functions. As Morrison reminds us, the necessity for an "outside force" as a catalyst for change is vital. In the case of small schools the variable may be legislation, federal programs, state programs or the development of training centers which focus on small school inservice teacher education.

Almost all research reports stress the function of evaluation in promoting planned change. This is probably one of the key variables and has been incorporated into all of California's Title I Programs. Each program must have a means to evaluate:

1. specific achievement goals for students and
2. measurement of the improvement of teacher skills.

Although evaluation is an important tool in the change process, it is seldom utilized except in a

superficial fashion. Reports in the literature state that the issue is many times one of personnel. The expertise is lacking. Related to this factor is the failure to build evaluation into the project or program as an integral phase of the total operation. In several reports it was noted that evaluation was omitted because of cost factors and time. The emphasis changed from one of research and evaluation to one of doing and action.

The design and format of inservice programs affects the change process. White (p. 13) notes it is possible to design an inservice program which will answer the need of classroom teachers to become acquainted with programs (new curricula) and their philosophies. The implication is that one or the other will not bring about change.

Another variable pertains to the question of whether teachers will gain as much from an inservice program in a local setting as from a similar one on a college campus.

Curriculum projects have been utilized to alter classroom practices and as a format for inservice education programs. White cites the fact that curricula have been developed in the mathematics and sciences by cooperating groups of academicians, psychologists and teachers. The question raised is:

> ....Since these curricula have been developed for one primary reason--change in classroom practice--it is of interest to ask to what extent are these programs capable of initiating change?

White concludes that an ineffective teacher will not suddenly become effective with the adoption of new curriculum materials. Curriculum may be considered, then, to be an input to inservice teacher education programs but not a variable which alone would function to change traditional inservice teacher education programs as is evidenced by the adoption record of new curricular programs.

Westby-Gibson (p. 76) confirms this point of view and states that in their inservice programs they will continue to use the curriculum as a basis.

The question of attitude is constant throughout the inservice literature and relates to several areas of the inservice equation including the philosophy of teaching. Apparently, if inservice programs are to be changed to enhance their impact, the questions of attitudes, beliefs, philosophy and other similar questions must be entertained. A number of researchers and inservice educators have concluded that teachers with negative attitudes and resentment

toward inservice education should not be forced to participate. Westby-Gibson states that the negative attitudes were damaging to others who were eager to learn and participate. As a result, they have not conducted a program, since discovery of this element, which includes teachers who are required to take the program. Throughout the literature on inservice education and change the involvement of the individual, together with freedom of choice, seems to be a significant variable.

Correlated with the volunteer or freedom of choice element are criteria utilized by researchers and inservice workers in the selection of schools. With both factors, freedom of choice and school selection, the concern is with variables which are known to increase the possibility of success. The basic principle of operation is to start the inservice or change program when and where the attitude toward change is positive. Shanlon reports that in the selection of schools for the IPI program (Individually Prescribed Instruction) they insisted on the following criteria:

1. Administrative commitment
2. Teacher commitment
3. Participation in the research
4. Retraining of administrators and teachers
5. Uniqueness of the situation

Other factors external to inservice teacher education programs which alter or affect the internal components and thus the possibility of changing the traditional inservice program have been reported by Wallen. (p. 75) They are:

1. The nature of the community in which a school is located and the pressures and values within the community as well as its resources,
2. the policies of the school district,
3. the nature of a particular school, its goals, resources and administrative arrangements,
4. the personal style and characteristics of the teachers involved and
5. the nature of the student population.

It is obvious from the literature that the question of changing traditional inservice teacher education programs is

interrelated with many subtle and difficult to comprehend variables involving people and organizations. For instance, Wallen (p. 48) lists the following questions as being critical in the selection of schools and teachers for the expenditure of inservice funds and resources. Each category and each question identifies a variable to be considered in attaining change in inservice education.

1. Climate and support from the administration.

   - Can and will the district provide released time for the teachers if it is required as a part of the pattern?
   - To what extent does the principal commit his time to attend the in-service sessions?
   - What effort, within limitations of his financial resources, will the principal make to secure needed Materials?
   - To what extent will teachers be permitted to assume new roles as disseminators when this means absence from the classroom?
   - What avenues of communication will the principal set up for providing information for other teachers in the school who are interested in the project?
   - Will the teacher from a given school be the only one from his building, or will there be a cluster of teachers?
   - To what extent is the district committed to other innovations that may require funds and the time of both teachers and district office personnel?
   - Did the school meet the program's need for balance in the socio-economic level of the pupils?

2. The teacher's attitude, continuity of service and rapport with fellow teachers.

   - To what extent is the teacher challenged by new ideas? (Teachers who were committed to their present method of teaching or teachers who consistently rejected new ideas were not considered for the inservice program.)

- To what extent may we expect continuity of service from the teacher?

- What is the teacher's rapport with her fellow teachers?

The question of teacher preparation is evidently a factor related to change. Williams (p. 42) found it was difficult to get all teachers to change strategies of teaching and be willing and flexible to innovate. He found that most teachers were well informed about stereotyped methods, scope and sequence, and subject matter content, but that few were adequately prepared in the more scholarly approaches of productive and divergent thinking, the involved concepts regarding a child's various intellectual abilities, and current research on conceptual levels of thinking among young children. Each of these elements identifies a barrier to changing the traditional inservice teacher education program.

V. The Change Process--Background:

One fundamental conclusion reached during the review of literature relating to variables affecting change in inservice teacher education was that education profession, as a whole, has very little insight into the process of change. Furthermore, the most significant word in the equation is change. Therefore, the remaining portion of the literature review will be concerned with the change process as a means of establishing the more significant variables concerning the question of changing traditional inservice teacher education programs.

All experiences alter, in some way, the behavior of individuals. However, most researchers would support Gels in his contention that the goal is not just any change but systematic, progressive, cumulative change which results in progress in attaining better and better systems of instruction. (p. 9) The term discussed earlier, namely, innovation, best fits this definition. Innovation refers to deliberate or specific change and involves an individual, group, institution of culture functionally incorporating a concept, attitude or tool that had not been incorporated before. (Bhola, p. 8)

Many disciplines are concerned with change and the change process. However, it is generally agreed that an inclusive model of the change process or a general theory of change does not exist. Westby-Gibson believes that change in education has been a random process with most of the research directed to the content of change and not the processes of change. (p. 15)

Morison (p. 7) would disagree and states that much of his research and reflection has been spent on four distinct parts of the process:

1. The condition of things at the point of origin of any mechanical change,
2. the character of the primary agents of change,
3. the nature of the resistance to change and
4. the means to facilitate general accomodation to the changes introduced.

In his study Morison narrated the processes involved at each stage clearly and succinctly. Students of educational change can benefit from the analytical historical approach and the case study method. The process of change, as described by Morison in his study of bureaucracies, directs attention to

a possible fallacy in the thinking of educational change proponents. It is a question of innovation and the acceptance of the innovation. These appear to be two distinct phenomena according to Barnett (p. 292-3) which have different determinants. Thus the proposal by educators that teachers become innovators, change agents and receptors of innovations all at the same time is difficult to accept on the basis of the evidence presented by Morison and Barnett. Barnett reminds us that the issue of whether to accept an innovation or not confronts many more people than does the question of whether to create or not.

Change as a process takes place within given environments which have various configurations or social units. Bhola (p. 8) identifies four configurations each of which implies variables affecting change.

1. Individual
2. Group
3. Institution
4. Culture.

Of all the researchers concerned with educational change, Bhola is perhaps the most precise in setting forth the conditions which must exist before it can be stated that an innovation has been incorporated into an educational system. This incorporation Bhola calls diffusion, which together with his analysis of stages and definitions correlates closely with the concepts of Morison and Barnett. Diffusion is defined as:

> ....the process involving information consumption, social interaction, and behavioral change through which an innovation is incorporated into a configuration, tending toward a socio-psychologically stable and integrated relationship with the cognitive-affective-motor structure of that configuration. (p. 9)

Bhola states that <u>total diffusion</u> occurs <u>only</u> after the service and support stage and when the incorporation of the innovation has become rewarding and a maintenance sub-system has become a part of the system.

There does appear to be a hierarchy in the change process which is associated with the degree or level of change required. Chin suggested in 1964 that there were five levels.

1. substitution
2. alteration

3. perturbations and variations

4. restructuring and

5. value orientation change.

We thus have the suggestion that the change process does have structure and that rigor can be attained to assess change. Variables associated with changing traditional inservice teacher education programs are located at each level of the process. The question of attaining change which will meet Bhola's test involves another significant variable which is the process of communication and interpersonal relations. Bhola reminds us of a rather simplistic yet profound concept.

> In the last analysis, the question always comes down to the particular relations between two individuals, the donor or carrier of an idea, for whom it is more or less habitual, and a potential receiver or adopter, for whom it is more or less alien. Idea transference requires some means of <u>communication</u> between a person who already has the idea in question and another person who is to be made acquainted with it. (p. 291)

Those concerned with changing traditional inservice teacher education programs must consider the issue of knowledge level on the part of teachers and those responsible for the change process. Throughout history, as Morison's studies remind us, no man ordinarily could get out very far ahead of the state of the art or the existing thresholds of existing knowledge. It would also be necessary, if inservice programs were to meet Bhola's test of diffusion, to be reminded of Morison's conclusion that there is not much profit for the state of one art to attain a considerable advance unless the state of other related arts supports a general forward movement.

Many inservice teacher education programs operate on the same myths about change that lay people hold. McClelland (p. 5) has examined several of these myths and discussed them in three propositions.

> <u>Proposition #1</u>: A good product will succeed on its own merits or stated differently, "Information is sufficient for change."

In relation to this proposition McClelland reviewed the efforts of the Technology Information Program undertaken by the National Aeronautics and Space Administration. The program distributed information about innovations and developments accruing through the space effort with the idea American business and industry would use them and thereby prove the

concept of "spinoff" from the space effort. The program was well financed and, according to McClelland, elegantly organized. There have been three evaluations of the dissemination and utilization effort. The conclusion reached by all three was, as reported by McClelland, pitiful.

Proposition #2: The introduction of an innovation is a final act, and no further attention is required.

The question of maintenance of change is at issue in this proposition and is related directly to Bhola's concept of diffusion and the creation of a sub-system for the innovation. The maintenance variable is another part of the change process, the importance of which is summarized by McClelland.

> Obviously, a plan for maintenance and feedback is essential if the planned change is to persist. Training aids and devices are today gathering dust in storerooms throughout the country. Teachers and managers have reverted to their former practices. (p. 5)

Proposition #3: There is an orderly process from research to development to use. First, the scientist discovers and then verifies a fact or principle about a natural phenomena, perhaps defining the relationship among a set of variables. Then the technologist develops ways to use this information in order to get things done. Finally, the development is put to use.

Studies of the process of change definitely reject the linear model. Innovation and change generally occur in a network fashion with much movement back and forth between research, development and use. Morison's statement about moving too far in front of the state of the art applies here.

Educational change and inservice programs designed to promote change have largely ignored the information already available on change. Inservice programs are still designed which attempt to obtain change and innovation through several limited and doomed to failure practices.

1. Innovations composed of materials produced outside the school and unceremoniously imposed upon it with a minimum amount of preparation, especially of the teachers.

2. Demonstrational Innovations. Expert teachers or advocates of a particular method or technique show teachers, often captive audiences of teachers, how to perform. The method is ready made and imposed upon the system.

3. Innovation by Expertise. Specially trained people are made available. Audio-visual experts, curriculum experts and other specialists are placed next to or occasionally in the school. (Geis, p. 3-4)

The variable, which at this stage stands out most clearly, is the lack of knowledge about the change process by educators together with the lack of properly prepared change agents or professionals who can function effectively in aiding the educational enterprise in the improvement of instruction through the adoption of selected and proven innovations.

Resistance to Change:

It is a rather widely held opinion that teachers, many of whom are characterized by their submission to authority, formalism and rigid and stereotyped thinking, are also hostile to educational change or to everything that seems to them unusual. Research into change does not substantiate this point of view. In fact, Rubin (p. 20-21) believes that we have greatly overestimated the teacher's psychological resistance to change. From his research Rubin concludes:

> Given a legitimate objective, adequate opportunity and good reason to achieve it, teachers seem to respond with unsuspected eagerness.

Some individuals accept change, some reject it. The question raised by Barnett is: "What attitudinal biases characterize the acceptor as contrasted with the rejector when all the other variables of the acceptance situation are held constant?" (p. 378) The question is why some people accept change and others reject it. Are attitudes the critical variable? Do the attitudes of personnel toward inservice education create a barrier to the success of the program? Factors such as indifference, negativism, resistance lack of interest, complacency, or inertia have been singled out as limiting efforts at growth through inservice techniques. (N.E.A. Res. Div., p. 11)

Resistance to change may be a myth as Rubin suggests. It may also be real in the real world of education as Geis contends. As Geis structures the question of teach resistance to change he sees it as related to the reward structure of the institution of education.

> ....Why should she change? Why should she adopt the innovation? What does it cost her and what does she gain? To rely upon the natural triumph of the goodness of the innovation over the teacher's,

> the student's, and the school's existing sets of rewards and punishments is to foredoom effective innovation. (p. 6)

There is apparently a psychological equilibrium each individual attempts to maintain unless the benefits of his present state are less than satisfactory from his frame of reference. Unless there is dissidence within his environment, the individual will elect to maintain his present state. Barnett (p. 378) offers two hypotheses which provide a base from which to analyze the question of resistance to change.

> 1. ....an individual will not accept a novelty unless in his opinion it satisfies a want better than some existing means at his disposal....the thesis is that a novelty has less appeal for those who are enjoying the benefits of its functional alternative than for those who are not.
>
> 2. ....there are biological determinants for the lack of satisfaction that is characteristic of individuals who are predisposed to accept a substitute for some accustomed idea, and that these determinants result from the interplay and adjustment of an individual's conception of himself and the events of his life history. ....the essential point is that people develop tastes and preferences under the influence of particular experiences, and these orientations are significant for the acceptance or rejection of new ideas. (p. 379)

Barnett provides a framework for determining those individuals who are more receptive to change. However, there is the real world of the teacher where insecurity and resistance to innovation does exist. When the teacher's world is invaded by outsiders mandating a change from the old and familiar teaching procedures and content to new procedures and content, there is considerable insecurity. Teachers are threatened. However, Geis maintains that the threat is selective and that there are new roles for the teacher; new alternatives and rewards which are not part of every change model.

> ....To the extent that the teacher is an audio-visual device she is doomed by the development of more efficient and more sophisticated hardware. To the extent that she is a reinforcer dispenser on a random delivery schedule she is threatened today not only by theories of instruction and

> learning but by new approaches to child development and maturation. In an innovative system a teacher could pursue many other roles; she could help design, develop, try out and evaluate large and small scale innovations. She could assume a more dignified and, I think, more rewarding position as manager of, and investigator of, student learning. (Geis, p. 7)

How can the educational establishment encourage innovation in the inservice teacher education programs? What modes of operation would decrease resistance to change and enhance innovation? McClelland reports some interesting observations on research in this area. In a study by Ross it was found that school teachers acquired most of their ideas outside their communities. The evidence seems to support the point of view that dissemination is facilitated when potential innovators are among those who travel. They are more cosmopolitan rather than local. The "localite" is more resistant to change.

It was also found that those individuals who "move freely" among research, development and use activities were more innovative. These individuals generally belonged to more formal organizations and had more informal friendship, discussion and advice networks. (McClelland, p. 11)

Individuals in the latter category apparently have adopted a positive attitude toward change similar to what Schon calls the "meta-ethic." Schon describes the meta-ethic as an ethic for change, for enquiry, for discovery. It is an ethic of change--a set of principles for change. The meta-ethic is internalized and in order to be effective has a reality for those individuals adopting it. (Schon, p. 204)

There are other barriers to change which concern other factors besides individuals. For instance, Christie isolated three variables affecting change from data collected from 65 school board members, 16 superintendents, 16 principals and 358 teachers in 16 Southern California School Districts. His dependent variable was "rate of adoption of educational innovations." Three variables explained 77% of the variations in the rate of district adoption of innovations. The three variables were:

1. ....board conception of community attitude toward innovation,
2. conflict over responsibility for determining educational policy, and
3. expenditure.

Each one of the foregoing has implications for those proposing changes in traditional inservice teacher education programs. Add the data from Christie's study relating to the total educational structure to that of Geis, Rubin, McClelland and others concerning the individual and his environment and the "variable matrix" becomes quite complex. The solution lies apparently in the development of theories of change and the preparation of individuals who can comprehend and operate the change process. Absent from almost all the literature on inservice teacher education are discussions on the need for a centralizing force, a director of the change process. Most change takes place without a plan, without a direction and with many unprepared people at all levels attempting to direct the multiple operations without orchestration.

The Change Process:

There are a number of ways of viewing change. In simple terms change ranges on a continuum from unplanned to planned. The question of variables as they relate to change thus becomes one of identifying the type or nature of change contemplated. If there is a systematic planned program of inservice education with specific goals which is to be incorporated in place of present traditional systems of inservice education the nature of the variables involved can be more accurately identified than if the change is merely a substitution of one inservice program for another.

Change is always occurring. The question is what type and in what direction. Most educators writing about change are concerned with planned change which is one of three broad categories of change, namely, imitation, selective contact change and directed contact change. The latter is defined by McClelland (p. 4) as:

> a deliberate and collaborative process involving an agent of change and a client system.

Planned change of course involves control and intervention. It requires a high level of knowledge about the phenomena that is being controlled and planned. Many individuals are greatly concerned about planned change, change models and change agents. Bhola (p. 5) believes that planned change must be accepted in all sectors of our social and economic life and for the following reason.

> ....it seeks to maximize the social returns of our systems and does not necessarily damage the individual and his right to self-fulfillment within a better, more productive social system. It very often improves the chances of such fulfillment.

The identification and recognition of planned change and the client system is a new phenomena for many educators, a new tool which enables them to more successfully carry out their mission of improvement of instruction. Planned change and the study of change processes have made educators aware of options in programs and actions. As Robert Chin reminds us in the discussion of his developmental model, actions become strategic rather than tactical. It is a difference between appropriate action and reaction. It is a difference between controlling your environment and being controlled by the environment, as was early man. Planned change adds to one's security and changes uncertainty into a risk component which is predictable.

Chin believes that the developmental model has advantages for the practitioner because it provides a set of expectations about the future of the client-system. Chin supports his developmental model by stating:

> By clarifying his thoughts and refining his observations about direction, states in the developmental process, forms of progression, and forces causing these events to occur over a period of time, the practitioner develops a time perspective which goes far beyond that of the here-and-now analysis of a system-model. (p. 211)

Planned change, change directed toward agreed upon goals in educational or other systems involves not only the continuum noted previously but levels in ascending order of difficulty, the most recognized of which is Robert Chin's hierarchy of five levels: (1) Substitution, (2) Alteration, (3) Perturbations and Variations, (4) Restructuring and (5) Value Orientation. Each level would have different variables. For instance substitution is merely the change of one element for another such as a new route for a fire drill whereas value orientation would involve changes associated with nongraded schools, individually prescribed instruction, year around school and others.

Those who study change, innovation invention and development generally, at some point in their discussions, state as their goal one of "dealing with <u>all</u> situations in life more reasonably and more effectively than hitherto." One approach developed as a model for change and problem solving is described by Zwichy. (p. 273) It is called the morphological approach and is designed to "make possible the clear recognition of those fatal aberrations of the human mind which must be overcome if we are ever to build a sound world." A morphological study implies a study of the problem and all its related parts. It is an attempt to design a procedure which isolates

the essential elements. Zwichy offers the following steps as an example of the procedure. Note that the first step is an attempt at precision which has been identified previously as a variable in the change process.

First Step. The problem which is to be solved must be formulated exactly.

Second Step. All of the parameters which might enter into the solution of the given problem(s) must be localized and characterized.

Third Step. The morphological box or multidimensional matrix which contains all of the solutions of a given problem is constructed.

Fourth Step. All of the solutions which are contained in the morphological box are closely analyzed and evaluated with respect to the purposes which are to be achieved.

Fifth Step. The best solutions are being selected and carried out, provided the necessary means are available. The study of means is approached in the same manner.

In addition to proposed models such as Chin's and Zwichy's, among others, studies by scholars such as Morison provide information which is helpful in understanding the change process and in the identification of variables. Morison has attempted to identify how change occurs in a bureaucratic system with established procedures and hierarchies such as governmental bureaus and agencies. Summarizing his points Morison found:

1. Change occurred in part by chance. However, he also discovered that the idea or innovation entered an environment that contained all the essential elements for change including "a mind prepared to recognize the possibility of change."

2. The basic elements of the idea (technical details such as overhead projectors, behavioral objectives, team teaching, etc.) were put into the environment by other men, men interested in these specific areas for various reasons.

3. The various elements necessary to create the change were brought into successful combination by minds not interested in the devices, instruments or techniques themselves, but in what they could do with them. These men were interested

in change, overtly and consciously, as a means of improving the status quo. Therefore, a variable which enters into the question of educational change is the need to recognize that change is not only hierarchical in terms of type but also in terms of personnel.

4. Resistance to the Change Process. Those who oppose change, according to Morison, are moved by three considerations:

   (a) honest disbelief in the dramatic but substantial claims of the new process,

   (b) protection of the existing operational procedures, devices and instruments with which they identify themselves, and

   (c) maintenance of the existing society and social environment with which they are identified.

5. Outside Assistance. Morison found that in governmental bureaus and agencies that the deadlock between those who sought change and those who sought to retain things as they were was broken only by an appeal to superior force removed from and unidentified with the mores, conventions and devices of the sub-society.

Other studies, such as those by Rogers, have identified variables which operate on the rate of diffusion of an idea, procedure or innovation. It has been found that the innovation itself has an effect on the rate of diffusion. The greater the difference between the present and proposed the slower the diffusion. Other variables identified by Rogers were:

1. Communication--the transfer of ideas from source to receiver.

2. Social System--the members of the system who, individually or collectively, make decisions to accept or reject a given innovation.

3. Time--this variable concerns the time it takes the "client" or receiver of the innovation to travel the majestic route from awareness of

> the innovation, tb the arousal of interest, to an evaluation of the idea, through an actual trial to arrive finally at adoption or rejection.

The developmental model of Chin aids in understanding the change process, particularly the concepts of diffusion and maintenance, both of which occur over time. The realization that change and innovation involve people, values, attitudes, time and the allocation of resources enables one to answer the question, "Why don't we do it differently?", much more adequately.

The studies of Mort and Cornell provide information which indicates it took fifty years for complete diffusion of innovations such as the kindergarten and more than fifteen years elapsed before 3% of the nation's schools adopted the change. The question is: Why the time lag? What variables are operating?

Although the change process is not linear, as discussed before, it is helpful to analyze the process of diffusion, including adoption, to gain a better understanding of the stages and concomitant variables involved. Gillie (p. 12), in his study of the Diffusion of Knowledge, Research Findings and Innovative Practices in Educational Institutions, outlined four basic elements involved in the process of spreading a new idea from its source to its potential users. They are:

1. the new idea or practice,
2. its communication from the originator to potential users of the innovation,
3. spreading it to individuals within a given social system, and
4. the diffusion of the idea or practice over a period of time.

Gillie states that the ultimate goal of diffusing a new idea or practice is to have it adopted by its intended consumers. He defines adoption as:

> the decision to continue the full use of the innovation.

The adoption process, when analyzed, apparently contains five steps.

1. Become aware of the innovation
2. Develop an interest in the possibility of utilizing it

3. Evaluate it in terms of its usefulness to him and the possibility of using it in his practices

4. Conduct a trial or test of the innovation

5. Incorporate the invention on a permanent basis.

Rogers identified the "nature of an innovation" as an important variable in the diffusion process. Gillie cites the nature of the innovation also as a variable during the adoption process. It is at this stage, according to Gillie, that the receptor considers the relationship of the innovation to his own mode of operation. Among the questions asked are:

1. Is the new idea or practice superior to what it is designed to supersede?

2. Is it reasonably consistent with the potential adopter's past experiences and existing values?

3. Is it relatively simple to understand and implement?

4. Can the results of implementing the innovation spread to others with relative ease?

Each of the above questions relates to variables in the question of changing traditional inservice teacher education programs. In addition, we find again the critical role played by individuals within the social matrix. Gillie identifies them as "opinion leaders." They are the persons within the system to whom others turn for advice and information on a frequent basis. Gillie found the influence of "opinion leaders" was most effective in the following situations.

1. At the evaluation stage of the adoption process.

2. Late adopters. Relatively late adopters are more influenced by opinion leaders than early adopters.

3. Atmospheres of uncertainty. Opinion leaders yield a maximum influence in those situations where there is an atmosphere of uncertainty. In these cases "the personal touch" may be the deciding factor.

The change theory, identified by Bhola, supports the idea that the significant variables in the change process concern individuals. Bhola calls his theory a configurational theory because the emphasis is on patterns or relationships between innovators or adapters rather than

upon the social units themselves. It is the interaction which relates individuals to other individuals, groups, institutions or cultures. It was in these contexts that opinion leaders play a significant role.

Gillie has identified several variables which relate to educational institutions and change strategy. Several of the variables relate to the research of others such as Rogers.

1. The Innovation. The innovation should be modified from its original form so it blends in with the cultural values and past experiences of those persons who are expected to make the adoption.

2. Opinion Leaders. The opinion leaders must be accurately identified and won over to believing that the innovation is important to the institution and its members.

3. Users and Adopters. The intended users of the innovation must understand clearly the nature of the innovation and appreciate the need for its incorporation.

Gillie elaborates on point number three and identifies a hidden variable concerning the maintenance of change. He notes that the user stage is a very critical time since it is many times unclear whether the innovation was accepted by the members because they saw a need for it or because they felt it would be easier to passively accept it for use without actually believing in its value.

4. Purpose of Innovation. It must be clear to the intended consumers that one of the chief underlying purposes of the innovation is to enhance the competence of the institutional members.

5. Social Consequences. The social consequences associated with the adoption of the innovation should be carefully anticipated. Social consequences that might be undesirable should be prevented or minimized by thoughtful planning. (Gillie, p. 14-15)

There are two ways to evaluate the changes produced by programs based on the suggestions of Gillie, Bhola and others. They concern rate and direction with the latter being the more difficult factor with which to deal. Rate is in essence a measurement of the effectiveness of a given mix of variables

in producing change. The direction of educational change involves value orientations which in the final analysis may determine whether there will be change or not. There are, of course, value questions with respect to rate also but the level of concern is not as high.

Given the fact that the questions of rate and direction are not at issue, what other variables affect change? Earlier it was noted that the characteristics of the innovation itself affected change. Some of the more basic characteristics of innovations which affect change are listed from Rogers' work and include:

1. Comparative Advantage: the degree to which an innovation is perceived as better than that which is supersedes. Comparative advantage can be expressed in such terms as economics, prestige, or convenience to client.

2. Compatibility: the degree to which an innovation is consistent with the existing values and past experiences of the client.

3. Divisibility: the degree to which an innovation may be adopted on a limited basis. A divisible innovation could be adopted by part of the school system, by one or more teachers, for a given time period or in some other division. The essential point is not to create an all or nothing situation.

4. Complexity: the degree of difficulty in comprehension and use of the innovation. If a high level of training is required it must be built into the developmental model of the change process.

Other factors affecting the change process have been cited by McClelland in his analysis of Niehoff's work (p. 7) Variables relating to the culture, the receptors and the change agent are listed.

1. Amount of Behavioral Change Required: Innovations chosen for incorporation should be compatible with the cultural patterns of the recipient group. This means that the amount of new behavior which must be accepted, and the amount of old behavior which must be given up, will be minimal.

2. Recipient Needs: Innovations should be selected which meet existing or felt needs, preferably

those which the recipients have tried to solve through their own efforts.

3. Reward Structure: Innovations should be selected which provide practical benefits as perceived by the recipients, usually by improving their economic position.

4. Local Cultural Patterns: The strategy of introduction will involve adapting to and working through the local cultural patterns, particularly the patterns of local leadership.

5. Communication: The change agent or innovator must establish an efficient two-way flow of information.

6. Involvement: Recipients must be involved in the introduction process through full participation.

7. Flexible Strategies: The change agent is flexible in his strategies altering them to meet unforeseen circumstances.

8. Patterns of Maintenance: The change agent establishes patterns of maintenance among the recipients so the innovations can be continued when his influence is withdrawn.

The change process involving new behavior patterns and new or altered values may be considered as essentially a re-educative process. Kurt Lewin discusses the change processes involved at this level and provides some insights into the nature of the process thereby identifying variables requiring attention if change is to be attained.

In his analysis of this process Lewin maintains that the changing of values is not and cannot be only a rational process. He cites the fact that lectures and other abstract methods of transmitting knowledge are of little avail in changing values, beliefs and behavior.

The change process affects an individual in several ways: (1) his cognitive structure, including all his facts, concepts, beliefs and expectations, (2) his values, including both his attractions and aversions to groups and group standards, his feelings in regard to status differences, and his reactions to sources of approval or disapproval and (3) his motoric action which involves the individual's control over his physical and social movements.

Lewin stresses that social action is "steered" by an individual's perceptions which are a function of facts and values. How a person perceives himself in his perceived surroundings determines social action according to Lewin. His premise for inservice education or any change model would be a function of changing an individual's social perception. Change would take place to the degree that social perception was changed.

Lewin's work acknowledges the fact that it is a myth to believe that individuals will change or adopt new methods or procedures if they only possess the facts or correct knowledge. Correct knowledge, according to Lewin, does not suffice to rectify false perception.

The perceptions of individuals which provide a day-by-day pattern of living, including incorrect stereotypes, is the same as attempting to function with incorrect concepts in the physical or technological world. Changing the improper stereotypes requires, in Lewin's framework, planned experiences.

The problem of planned change, based on rational processes with emphasis on the cognitive elements, has significant shortcomings if Lewin's analyses are correct. In addition, his generalization has implications for the question: "Why wasn't the change permanent?" His generalization states: "Changes in sentiments do not necessarily follow changes in cognitive structure."

The question can be raised about the ethical variables involved in the change process if the time element is examined. Many programs have attempted change utilizing time periods too short to accomplish the goal. Lewin places the problem in perspective in his statement about the acceptance of new values and group belongingness. As stated previously: "A change in conduct presupposes that new facts and values have been perceived." However, this does not guarantee that change will take place. Lewin maintains that a change in the "culture" of the individual is required; that the change or re-education process accomplishes nothing if the "individual becomes a marginal man between the old and new system of values." Thus, programs which "only begin" the re-educative or change process and never complete the task are guilty of leaving individuals in zones of confusion and with incongruous and inconsistent patterns of behavior. In fact, Lewin maintains that not only is nothing worthwhile accomplished but there are other dangers involved as well for those who do not understand the change process and do not plan the re-educative process carefully.

For instance, Lewin notes that an individual who is forcibly moved from his own to another country, with a

different culture, is likely to meet the new set of values with hostility. He further states that this hostility occurs when an individual is made a subject of re-education against his will. The basis of the observation is the comparison of voluntary and involuntary migration from one culture to another. The implications for those engaged in the change process are significant, particularly in identifying and obtaining the cooperation of "opinion leaders." "Opinion leaders" are generally socially active within a given culture. Lewin believes that those individuals who are socially inclined or less self-centered will offer stronger resistances to re-education because they are more firmly anchored in the old system. It is the incongruity between the insistence on freedom of acceptance of a new idea, value or procedure, the strength of the belief and value system and the need for outside assistance in the change process that brings Lewin to state the dilemma in the form of a question.

> How can free acceptance of a new system of values be brought about if the person who is to be educated is, in the nature of things, likely to be hostile to the new values and loyal to the old?

Based on the foregoing analysis, what variables are operating that can be identified and accounted for in the change process? There are several which Lewin believes to be essential in understanding the process. First, he maintains, in the planning of change, methods and procedures which seek to change a person's values and beliefs item by item in a logical procedure cannot succeed. He recommends a "step by step" approach of gradual change from hostility to friendliness in regard to the new system as a whole, rather than the conversion of the individual one point at a time. The first priority in the change process, therefore, would be changing an individual from hostility, to open-mindedness, to friendliness of the new "culture" as a whole.

This can best be done in Lewin's framework through the creation of an in-group. This is a group in which the members feel belongingness. The use of the "in-group," together with the establishment of a strong "we feeling," greatly enhances the "step by step" process and the change to the new culture.

The function of the "in-group" and the "we feeling" is important. In summary, Lewin would maintain:

> ....in-grouping makes understandable why complete acceptance of previously rejected facts can be achieved best through the discovery of these facts by the group members themselves. ....an individual will believe facts he himself has discovered in the same way that he believes in himself or in his group.

and finally:

> ....It can be surmised that the extent to which social research is translated into social action depends on the degree to which those who carry out this action are made a part of the fact-finding on which the action is to be based.

Creating an atmosphere for change is the central theme of Bradford's analysis of the change process and is supportive of Lewin's conclusions about the need for the "in-group" and the security factor. Bradford believes that until the thoughts, feelings, and behavior needing change are brought to the surface for the individual and made public to those helping him, there is little likelihood of learning or change. In order to attain this surfacing of beliefs, values, and behavior, a climate must be established which reduces threat and defensiveness and provides emotional support while the learners undergo the difficult process of changing patterns of thought and behavior.

The question of the cognitive aspect was discussed previously and given a reduced priority. However, Bradford notes that information seeking and receiving factors are essential and states: "Knowledge from a variety of sources is vital to the learning process."

Feedback is another variable introduced by Bradford. Upon analysis it becomes clear that feedback is an on-going evaluation and assessment process which expands the commonly held concept that one learns by doing. Bradford concludes we do not learn by doing. He makes his point by stating:

> We learn by doing under conditions in which relevant, accurate and acceptable reactions which we are able to use get through to us. ...Increasingly, it is clear that the concept of feedback has important meaning for the educational process.

The integration of new knowledge into new behavior patterns can be based on the above perception. New modes of thinking, doing and acting are accrued over time through experimentation and practice situations. Both learning and re-learning take time. And it is important to remember that the step by step process is incremental over time. It is a developmental process. It cannot be mandated. Therefore, if traditional practices of inservice teacher education are to be changed, one conclusion can be made. It will take time.

Not only will it take time but there must be a payoff. Just because some people believe others should change does not make change acceptable. If the goal is the improvement

of instruction, as is so often stated, the question about change can still be asked: "Why should the teacher change?"

The Change Process-Communication:

Permeating the entire discussion of change are several significant elements essential to the change process. One is communication. The success of the change process is related to the adequacy of the communication processes. The development of openness, security, accuracy of perceptions and assessment procedures cannot take place without appropriate communications.

Bhola maintains that the diffusion of an innovation will be determined by the utilization of resources such as "influence resources" which are directly related to the linkage of the innovator and adaptor through some communication or interaction pattern.

The communication factor becomes more of a problem, as does inservice teacher education, when Dague's observation is studied.

> ....A major problem encountered by local school districts today is the difficulty that faculty members have in working together. This is largely due to the fact that teachers trained at various universities have divergent viewpoints regarding philosophies of education and the process of education. Add to this divergent character of educational backgrounds the mobility factor of teachers, we can realize why a continuous inservice educational program is an essential part of any well functioning school system. (p. 1)

The establishment of interpersonal relations and good communication among and between individuals and groups is a problem that has received very little attention. In fact, education may have been infatuated with a learning theory model when many indicators direct attention to a communication model as having more validity in the attainment of the goals and objectives of the educational process.

Interpersonal communication described by Schon, (p. 210) as, "what is happening between us now," is a significant factor in change. Schon calls it a "powerful lever." He notes:

> Reference to "what is happening between us now" is apt to provoke embarrassed silence, or, if there is power present, a sense of risk and danger. It is, nevertheless, a direct route to that *sense of interpersonal security which is so important to radical innovation.**

*italics added

The Change Process--Conditions Necessary for Learning and Change:

Although a number of the conditions necessary for learning and change have already been stated or implied, it seems necessary to elaborate on several and direct attention to some new ones.

The frequency of mention of the principle that the in-service program which is well conceived will make "the learning process the focus of organizational efforts designed to serve the needs and purposes of individual teachers, "establishes it as a central variable from which others derive.

The learning environment is a part of the learning process equation as are other factors. Edmonds (p. 34) lists the following as being "those aspects of learning" which affect what is able to be achieved toward a teacher's personal growth.

1. Physical Environment--This ranges on a continuum from very informal and non-structured to highly formal and structured. The selection of the appropriate environmental design for a given activity and goal is the issue.

2. Individual Perceptions of Others: How a person perceives their colleagues influences their receptivity to learning. The importance of "feedback" to the change process has already been discussed. Rubin reminds us that next to self- criticism, criticism by a trusted peer seems to be most easily tolerated by teachers. (p. 19) The "in-group" factor is active here also. Westby-Gibson concludes that inservice education programs should be made up predominantly of those who are ready for change. (p. 14)

3. Individual Perceptions of Self: How one views himself influences his perception of what is going on around him. As Edmonds explains (p. 34), a teacher is most likely, at least in beginning programs, to identify external school needs in areas with which he is quite knowledgeable. To expand this perception requires re-education.

4. Functions and Roles: A person's position within the educational structure holds certain significance in the manner in which he perceives himself in relation to the issues involved. There is a stratification of roles with given perimeters assigned either formally or informally. Certain functions such as budget curriculum, discipline, initiating of change and others belong to certain people. These perceptions limit change and hinder learning. Therefore, structure of organizations is a variable.

Previously it was noted that Rogers considered the characteristics of the innovation to be a factor in the diffusion

of innovations. Although this is a significant variable in the change process, other conditions are of greater significance according to Bhola. (p. 7) He concludes:

> ....Characteristics of an innovation were not primary in determining the probability of the diffusion of an innovation. The more important factor was the availability of resources of skills, personnel, material and influence with both innovators and adopters. If all the needed resources were available and deployed, the adoption of any innovation could be achieved for an individual, group, organization or culture, in due course of time.*

The person toward which the inservice issue is most often directed, namely, the teacher, brings to the situation certain fixed factors which require attention if change is to accrue. Among those conditions which teachers bring with them as reported by Flanders (p. 136) and others are:

1. the lack of a sense of experimentation with regard to their own behavior,
2. limited skills for exploring different verbal patterns in the classroom due to a lack of concepts that deal with behavior,
3. limited tools for gathering information systematically and
4. lack of time to develop, understand and use data-gathering tools.

Implied in the above conditions, selected by Flanders, is a concept of the function of a teacher in the educational enterprise. Inservice programs reflect directly the perceptions of administrators, teachers and others of the role of the teacher. Change the internal and external perceptions of the teacher in the social environment of the educational enterprise and you change the inservice program as well as the nature of the conditions affecting learning and change.

For instance, an entire new set of variables is introduced into the inservice teacher education equation when Flanders (p. 136) suggests that teachers become self-directing analysts of their own and the students' behavior. Flanders believes teachers need: (1) new concepts as tools for thinking about their behavior and the consequences of their behavior, (2) procedures for quantifying these concepts in practical classroom situations, (3) practice in using these concepts

*italics writer's

in their own classroom to analyze behavior, (4) a research orientation attained through participation in carrying out experiments designed by others and (5) participation in independent, self-directed inquiry in which one's own behavior and the reactions of pupils are the object of inquiry.

The presuppositions involved in the above conditions affect directly the variables related to changing inservice teacher education. The underlying assumptions and their implications establish conditions which place more responsibility on the teacher becoming a self-directing agent of change without the supporting system considered so vital by other researchers. There are relationships however. Bessent (p. 17) summarizes some of the conditions necessary for effective and efficient learning. People learn better:

(a) when they are actively involved in the learning process--when they do something rather than having something done to them,

(b) when there is immediate feedback to the consequences of their behavior,

(c) when the learning activity is perceived to possess face validity; that is, to be relevant to their important concerns,

(d) when they are interested in, and enthusiastic about, the learning activity,

(e) when their reactions to the learning activity are reinforced by the reactions of others, and

(f) when the learning activity is carefully designed to accomplish clearly conceived purposes.

The Process of Change--Environmental Factors:

This sub-section could be entitled the "ecology of educational change" since it deals with the cybernetic system of the educational enterprise and all the sectional, geographical, personal and political variables involved.

It is evident immediately, when one begins a study of change, that the information and knowledge of any consequence available on the question of environment is limited. Many writers mention environment. Few have anything to contribute except to recognize it as an important variable. Some have recognized the great variety of teaching conditions throughout the nation and conclude that these variations usually mean that one procedure will succeed and another will fail. (Rubin, p. 6)

Others, such as Bhola, have attempted to develop theories and formulas with which to conceptualize the environment and accept it as a factor in any innovation or change process. The present study confirms Bhola's contention that environment is wholly neglected in most innovation models. Rubin (p. 17) in his work reports that those he called "facilitators" had a hunch that the environment in which the teacher operates is of greater influence on his desire to improve professionally than any of the other variables tested. The effectiveness of resources is affected by the environment within which innovators and adopters exist according to Bhola. (p. 7) He believes the environment has the potential to multiply the effectiveness of resources or neutralize them resulting in expenditure of resources with no gains in diffusion.

The work of Bhola on the question of environment is perhaps the most substantive. He points out that hardly any attempts have been made to measure social environment. Furthermore, a precise definition of the environment was not available as a base for measurement, prediction and explanation of human and social characteristics in the change and diffusion process. In their research Bhola defined environment as:

> comprising physical, social and intellectual conditions and forces that impinge continuously on a configuration. In the case of an individual it will include a range of environments from the most immediate social interactions to the more remote cultural and institutional forces. (p. 13)

Bhola explains the diffusion of an innovation as a "function of the relationship between the initiator from a class of such initiators and the target from a class of such targets; the extent and nature of linkage between and within configurations; the environment in which the configurations are located; and the resources of both the initiator and target configuration. There are, therefore, five elements in the equation:

1. Diffusion (D)
2. Configurational Relationships (C)
   (a) initiator (I)
   (b) target (J)
3. Linkage (L)
4. Environment (E)
5. Resources (R)

Diffusion can then be explained as a function as follows:

$$D = f(CLER) \quad (p. 8)$$

Further explanation of the theory is provided by classifying environments as:

1. Instantaneous environments. (subjective and objective)

2. Persistent-subjective environments. (This implies there are as many environments as there are individuals)

3. Persistent-objective environments.

In the analysis of the environment Bhola developed a matrix from which to conceptualize the environment. He sees the concept of environment involving two dimensions--the objective-subjective and the instantaneous-persistent. The following matrix provides a visual presentation of the idea.

Four Components of Environment

	Subjective	Objective
Instantaneous	1	2
Persistent	3	4

Bhola believes "it is the persistent-objective environment which will, wholly or in part, supply the ecology of an innovation." Whether the environment will be supportive, neutral or inhibiting will depend, according to the theory, on the net component of the forces in the environment acting on the innovation.

The Change Process--Change Agents:

Throughout the literature on inservice teacher education, innovation and the change process, suggestions are made that what is required to improve the process is a person known as a "change agent." Most literature does not define the role of this person beyond recognizing that special talents and knowledge are required and that problems exist between the development of a process of innovation and the acceptance and practice. Some writers call the new role in education a professional innovator. It is observed that personnel at the county and state levels of Public Education largely confine their role to regulation and neglect the advocation of change. Those that do engage in the change agent role usually serve intermittently or as a transient.

The typical public school teacher or administrator does not possess the research skills nor the habits of scholarship to do the job. (Lavisky, p. 6)

The question of the utilization of change agents within the system of education is often raised from a moral or ethical posture. The questions of planned change, individual freedom and choice are issues brought forth by many when the role of change agent is discussed. One way of viewing the structure within which the change agent would operate as well as placing the questions in perspective is the point of view expressed by Bhola. (p. 5)

> ....innovators and change agents should be enabled to work for innovation diffusion as long as they are competent, are using their social skills for common good, have been assigned to their roles by the people themselves through known democratic procedures and can be removed from those positions again through established processes; and as long as individuals, or groups have the <u>freedom not to consume</u> the innovation or change offered and made available.*

The change agent fulfills a role within society of providing a link between the innovator and the acceptor. Barnett (p. 295) reminds us that it is common practice today for professional inventors to relinquish their advocacy to "professional surrogates." They leave the advocacy of their innovations to representatives who are specialists in this field. The proposal is that the field of education adopt this practice.

It may have advantages. Morison (p. 39) discusses the concept of "identification" in his analysis of innovation diffusion. He found that individuals play many roles; some identify themselves with their creations and obtain satisfaction from the thing itself, a satisfaction which interferes with their thinking either about the use of the defects of their innovation; some identify themselves with a settled way of life they inherited or accepted and find satisfaction in attempting to maintain that way of life unchanged; and others identify themselves as rebellious spirits, men of the insurgent cast of mind, and obtain their satisfaction from the act of revolt itself.

Each of these categories of people identify with a particular concept, convention or attitude each of which is, according to Morison, a powerful barrier to change. The role of the change agent is to alter the perceptions of each individual.

*italics added

In the area of education, the research spells out rather clearly (Rowe, p. 12) the role identification problem. It was found that teachers and principals not only focus on different difficulties innovations present; they often hold conflicting views. It is suggested that the role of the change agent would be to examine the content of the conflicts and determine means to reduce them through alternative actions. If Morison's assessment is correct, the task of the change agent would be to enlarge the "sphere of identification" of both the teachers and principals from the part (their world and its concerns) to the whole (the improvement of instruction in their school system). Rowe's analysis, which concurs with Morison's perceptions, states that teachers focus primarily on factors related to belief systems, learning environments, management of classes and other similar factors while administrators concentrate mainly on knowledge, content, physical environment, lack of equipment and space. Figure IV provides a visual perspective of the relations determined by Rowe.

The Change Process--Facilitators and Inhibitors:

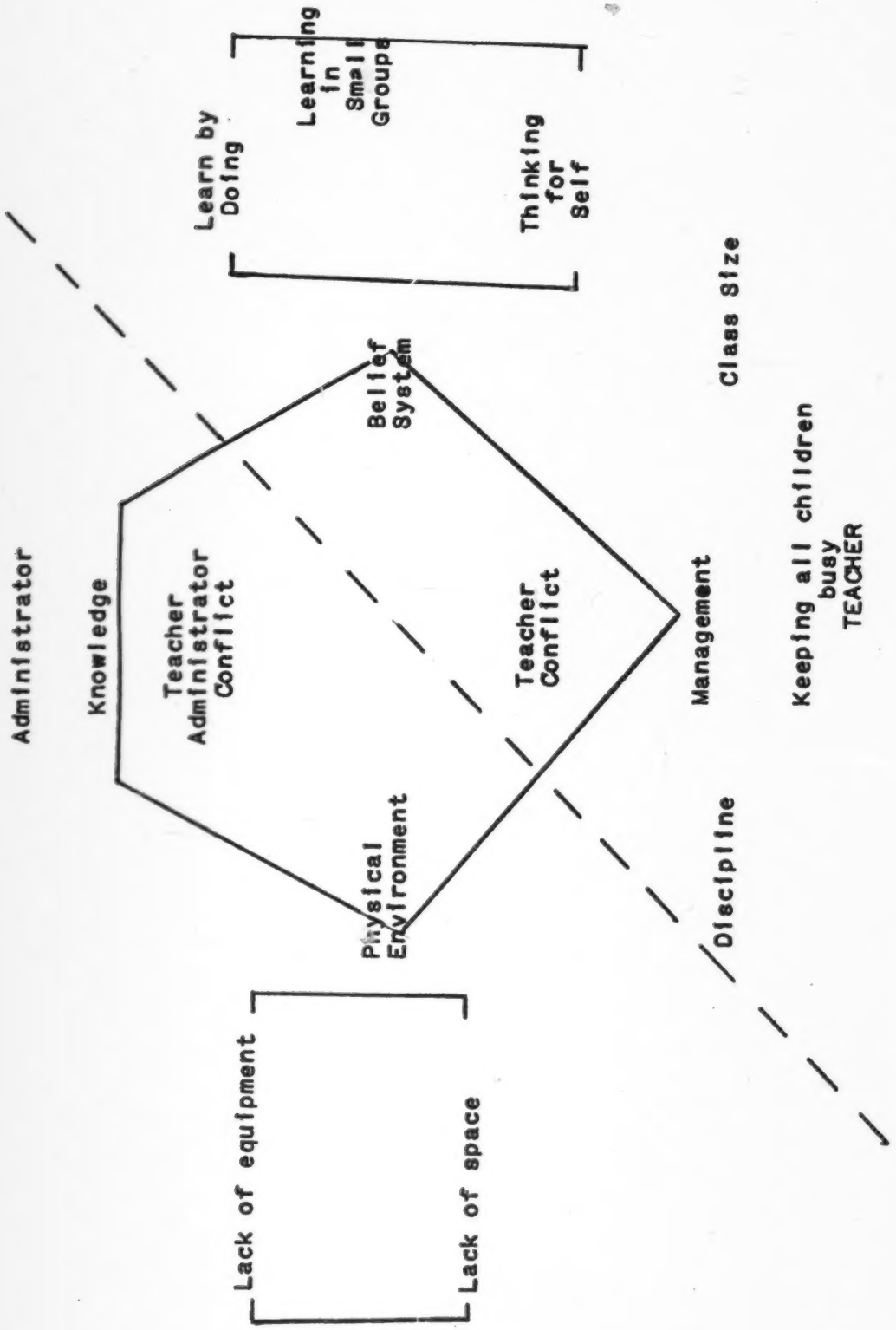
Although the field of inservice teacher education has not reached that stage where a body of research exists from which to make definitive decisions, there does exist an ongoing body of practice which identifies procedures which facilitate the effort as well as those which inhibit the effort. Whether definitive answers will ever be available is questionable unless the attempt is to devise an inservice structure which is externally stable and internally flexible and adaptable to change. To be more prescriptive in a field concerned with as many varied problems, programs, and people would be presumptious.

Programs which have been successful have utilized some or all of the following practices, among others, to some degree.

One practice which seems mandatory if change is desired is to change the planning of inservice programs by administrative personnel only to teachers or to a cooperative effort. The most successful programs are those that derive content and procedures from teacher needs. Furthermore, the more successful programs have been those which were not only cooperatively planned but planned for a period of three to five years.

Closely allied with direct involvement in the planning by the teacher is the variable called meaningful relationships. It has been found that the best practice, based on the objective to change behavior in the classroom, is to relate the inservice program to what is going on in the classroom.

Figure IV



Teachers focus primarily on factors lying beneath the diagonal while administrators concentrate mainly on factors above the diagonal. (Rowe, p. 9)

The involvement of the individual, the meeting of his needs through individualizing instruction and directing attention to those individuals who express interest in change, combine practices focusing on the individual which, according to research reports and other data, increase the effectiveness of inservice programs. Meeting these criteria requires a flexible program and assessment and evaluation procedures based on individual teacher growth as measured by their students' achievement. The focus of inservice programs utilizing these criteria is in the classroom.

Another practice which has facilitated inservice programs and increased their effectiveness is the use of outstanding classroom teachers to conduct inservice programs for other teachers. Stated or implied in all programs using this practice is the development of training programs for teachers assuming the new role.

There is disagreement on whether training programs should be compulsory or not. The practice utilized seems to be related to the type of inservice program with some evidence that voluntary participation has the greatest potential for the long-term, well planned inservice program.

All of the above facilitators, if adopted, would require modification of traditional inservice programs. If modifications are denied, what information do we have which will facilitate change in program at the operational level? Lavisky (p. 10-11) reports on an analysis made by the Human Resources Research Organization relating to adoption of their products and/or processes by the United States Army. They found the following factors or variables to be important.

1. Timeliness. The product filled a recognized instructional gap; it was relevant to a planned or on-going revision.

2. Command Interest. There was a strong operational command interest, including that of a subordinate command. To put it another way, there was strong interest at both the management and working levels.

3. Product Engineering. The end-product was a plug-in item, specifically engineered for a given situation, requiring little effort to adopt it to the operational setting and requiring little Army effort.

4. Concreteness. A material item, such as a complete lesson plan, program of instruction, or a training device with a user handbook, was provided.

5. Zeitgeist (for want of a better term). Some other service, foreign army, or civilian institution had accepted the product or a similar one.

6. Personal Interest. An undividual officer or group of officers associated with HUMRRO became convinced of the worth of the product and were willing to serve as forceful and dogged proponents.

Each of the above has implications for the field of in-service teacher education whether one is attempting to change the over all approach to inservice education as generally practiced or to alter the internal practices of present on-going programs.

The field of curriculum innovation has been studied and there are certain conditions which have facilitated the introduction of new curricula. A number of the conditions appear obvious, yet may be overlooked by many concerned with the change process. Some of the conditions included:

1. People--highly intelligent with differentiated and specialized roles.

2. Reward Structure--individual recognition was possible.

3. Problem--precisely defined and limited in scope.

4. Resources--physical facilities, materials and equipment were available as required and/or produced as needed.

5. Communication--personnel were well informed about similar developments elsewhere.

6. Application to Practice--curriculum was tried out, altered and improved until it met the objectives.

There is evidence that the intellectual and knowledge level of a teacher is a factor in the change process in particular areas such as in the sciences and the technologies. White (p. 18) reports that the amount of previous science training appeared to be a significant contributor to the effect of the teacher education program and that an extensive knowledge base provides a greater potential for change. Two factors may be involved in the latter premise. One, the more knowledgeable teacher is probably on the forefront of his field and two, because of this, is more secure.

There are certain techniques which facilitate change. One is the concept of "feedback" which relates to the theory of reinforcement. Programs which utilized "feedback" techniques and focused on precision in spelling out objectives greatly facilitated the overall goal of the inservice program. The use of "feedback" presupposes the development of objectives for the program. How else can the "feedback" concept be utilized whether by self-analysis, fellow-instructor analysis, student analysis, teacher-educator analysis or a special assessment and evaluation team. As Rubin reminds us: "To improve teaching (or an inservice teacher-education program) it is necessary to analyze performance." (p. 5)

The experience of those attempting to identify and state problems and to identify and state objectives indicates a major problem area which either facilitates or inhibits the change of inservice programs depending on how well these two problems are carried out. It is the rare teacher or teacher educator who can state a problem accurately and succinctly. It is also the rare teacher or teacher educator who can state an objective accurately and precisely in performance terms. However, all "feedback," evaluation, assessment and change depend on these functions being carried out at a high level of sophistication. It is interesting to note that Robertson found that the process of writing behavioral objectives at all cognitive and affective levels seems to bring about more change in teacher methods than did training in classroom observation systems. Thus, it may be that change in inservice teacher education programs could be enhanced by focusing attention on problem identification and the delineation of highly precise performance objectives.

Geis would support the problem solving approach as being a significant facilitator in bringing about change. He notes:

> The problem-solving routine provides the occasion for the teacher to engage in a number of skills outside of those that have been traditionally hers. Thus, she engages in explicating instructional problems, suggesting evaluative techniques, designing and executing solutions for problems, and adapting and adjusting particular solutions to individual students. (p. 11)

There are a number of variables which can inhibit change. Of the many researches which reported failure in attaining change Gross' study is most informative. His study was an attempt to isolate the factors that inhibit and those that facilitate the implementation phase of the process of planned organizational change. The study was made of an innovation--the radical redefinition of the role of the teacher--which

was introduced into a small elementary school in a lower class urban area. The implementation failed. Some of the factors the implementation of proposed organizational changes must take into account according to Gross are:

1. staff resistance,
2. the clarity of the innovation,
3. individual or group ability to perform it,
4. existence of necessary materials and resources and
5. the compatibility of organizational conditions with the innovation.

Gross also found that resistance to the innovation may emerge after the introduction and this resistance can vary over the period of time implementation efforts are being made.

Others such as McClelland (p. 8) cite inhibitors to innovation or diffusion as being associated with such factors as:

1. the diffuseness of the goals,
2. knowledge and skill in the teaching profession to "engineer" innovations,
3. lack of evaluation and feedback which are related to precision in the statement of goals and objectives.
4. human factors. (Attitudes of reticence, suspicion and fear on the part of educators. Vulnerability of the school system to powerful influences such as parents, school boards and power elites in the community), and
5. management and funding problems.

Rubin's research found that the school principal was by far the greatest influence on the staff's personality. (p. 18) Gross (p. 259) found that one of the major causes for the inability of many school systems to demonstrate positive educational effects from their attempts to institute educational change could be attributed to "the truncated version of the change process held by their administrators." Furthermore, Geis (p. 6) states that when an innovation is adopted, regardless of why, it usually leads to troubles because sufficient provision has not been made for continuing support,

for financing, and more importantly, for training teachers in how to use and how to avoid misusing the innovation which in itself would inhibit its acceptance.

Lavisky (p. 6-7) reviews other factors supportive of and in addition to those already mentioned. He cites cost, the conservation of the educational establishment, failure of the adopting agency to adopt the innovation specifically to fit its own situation, and the necessary commitment to alter the behavior of school personnel, among others. In the same report factors which inhibited adoption of innovations and the utilization of research completed by a private firm for the U. S. Army were noted. They included: (1) Poor communication, (2) Lack of Timeliness, (3) Nature of the Change (too drastic or couldn't be adapted to present procedures), (4) Lack of Command Support, (5) Cost (no way of funding), (6) Lack of Engineering Capability (personnel necessary to translate research or innovation into operational terms and content did not exist), (7) Policy Problem (lack of a doctrine under which to fit the new or improved training or operational capability), (8) Insufficient Salesmanship, and (9) Tradition (the product was perceived to attack current practices, individual competence, "sacred cows," tradition, or long accepted doctrine). (p. 10)

VI. Evaluation:

The most powerful tool and the most significant variable for affecting change in traditional inservice teacher education programs is the vague, difficult to define, complex problem plagued, phenomena known as evaluation. The level of sophistication of this area of education is very primitive. The tools are crude and the skill of the practitioners limited. Yet, unless the state of the art of evaluation is advanced, together with the state of the art of supporting areas, the possibility of initiating, supporting and sustaining planned change in inservice teacher education is impossible. This is true because a salient but little recognized factor is involved. Without evaluation it is impossible to determine the array of other variables that in toto affect a given inservice program.

Basic to the question of inservice teacher education and evaluation is the issue of educational philosophy. The concept of evaluation rests on the assumption that there is something that can be measured, assessed, compared or assigned a value. When one compares, he compares a given action, object or event to a given standard. The standard is based on a previously selected criteria. If the question concerns instruction, the ultimate question is based on a given philosophy of education. A given philosophy presupposes certain assumptions which provide a base for the mission, goals and objectives of education.

Unless the philosophy of a given educational program, together with the assumptions of the program, is precisely stated, it is impossible to engage the questions of change or evaluation. For one thing, it would be impossible to answer the question, "Change from what?" It would also be impossible to answer the following questions.

1. What change shall be made and why?
2. Who and what shall be changed and why?
3. When will the change take place and why?
4. How will the change be initiated, accomplished, maintained and assessed and why?

The questions of whether change is possible or not or whether it can be accomplished in a given time period are irrelevant questions when compared to what change and in what direction. The present review of the literature on variables affecting change in traditional inservice teacher education programs can conclude only that the questions of

the philosophy, direction, content and purpose of education have not been answered. This leaves educators with evaluation and statistical techniques rather than processes and programs.

How educators can expect to evaluate their efforts or have them evaluated adequately by others without a clear statement of purpose is a mystery. It is apparently accepted as standard practice in the day to day field operation that it doesn't make any difference which trail you choose if you really don't know where you intend to go.

The "if-then" equation aids in focusing attention on the issue. If the goal of inservice teacher education is to affect the quality of instruction within the educational enterprise then educators must seek information about the best strategies for effecting change both in the structure of inservice education and in the nature of the inservice process.

It has been conceded for some time that teachers can undergo intensive inservice training designed to change attitudes in the classroom and to increase understanding of the problems of children and be totally unaffected according to Buskin. (p. 22) He reports that the U.S.O.E. spent nearly $9,000,000.00 in 1968 for inservice training of teachers under Title I with little evidence to show that the training ultimately paid off in improved learning for students. A federal task force stated that the major problem was lack of proper evaluation. Yet, designing and implementing adequate evaluation programs has been found to be difficult to carry out.

The question remains after reading similar reports, "What were they trying to evaluate?" The studies reported by Buskin and others reinforce the fundamental tenent that evaluation cannot be "after the fact," whether concern is with changing total programs or individuals within programs. Evaluation must be an on-going, day-to-day process. This is true because "everything is in process and nothing stays still."

The evaluation process can add to both security and insecurity. Without evaluation there is less freedom, less control of one's situation and greater insecurity unless the process of rationalization, supported by myths and operational modes based on stereotypes, is used. Without a "knowledge of where we are" we opt for being controlled by the situation rather than controlling the situation. One's actions become purposeful and efficient when he is aware of what his actions actually do. The development of this awareness is an important factor in the evaluation process, particularly for educators concerned with people and behavior.

The concept of evaluation rests on the principle of feedback. The goal is control. Control is a function of accurate and precise information. What information and when is a question of objectives. Thus, if it is desired to change traditional inservice teacher education programs for the purpose of improving the quality of the instructional process, then the first task is to state the mission, goals and objectives of the educational process in precise performance terms. At issue, of course, is whether educators and the public are willing to establish pre-determined, specific goals for inservice teacher education programs based upon precisely stated philosophies, missions, goals and objectives of their educational and instructional programs. If they are then it is possible to change traditional inservice teacher education programs to attain these goals and thereby improve the quality of instruction.

Success is not possible immediately but at least the variable is identified and the profession can engage in the process of attaining evaluation precision by successive approximations.

VII. Summary:

The question raised by this study cannot assume change was not and is not occurring in inservice teacher education programs. Change is occurring and will continue to occur. The question concerned changing traditional inservice teacher education programs for the purpose of improving the quality of instruction. The need was to determine those variables which affect change. They have been listed and discussed in several contexts and it is not necessary to provide a compendium at this time.

Rather than a review of what has already been said it seems appropriate to state in as brief a form as possible some of the more elemental observations which are judged to be important to the question.

Change is always occurring. The question is: What type and in what direction. Planned change is possible and is a desirable goal. We know we can attain change. We also know there is a large gap between theory and practice which is usual in the day-to-day world but in the case of change both elements are weak.

We know that present day inservice teacher education programs produce little change which affects the quality of instruction. We know that one of the reasons is that the programs are not evaluated. And we know that programs without precisely stated objectives are next to impossible to evaluate. In fact, evaluations of programs without performance objectives are largely subjective exercises in futility.

We know much more about change and the change process than most educators are willing to admit. It almost appears they are reluctant to use the tools available to them for engaging the question.

We know that the variables affecting change involve diverse elements such as: philosophy, people, programs, performance, places, practices, projections, precision practitioners and planning, to name a few. We know that the process of change is complex. We know that it requires knowledge and skill of a high order to direct planned change.

We know that many of the variables relate to the diversity of goals in education, the lack of a structure within the educational establishment to plan and manage change including the preparation and training of such specialists as those required for quality control, the evaluators.

We know it will be necessary to create special organizations to service functions such as change, evaluation and training. School systems are not equipped to handle these functions themselves.

There are many suggestions and recommendations that could be made with respect to changing inservice teacher education. In fact, there are lists ranging from four or five items to twenty or more. Some are more critical variables than others.

If a decision is made by the United States Office of Education, a given state department of education, county school system or other political entity with direction and control over education to change inservice teacher education, then action devoted to the following variables is in order.

1. The formulation of precise, long-term developmental plans.

2. The development of specialists including managers, change agents and evaluation specialists.

3. Establishment of programs for the study of the change process, including research and evaluation.

4. Commit funding sources to long-term ventures so the critical variables of resources and follow-up can come into play.

5. Structure all phases of the program so there is direct involvement of teachers in the process.

6. Design the efforts so the focus of attention is directed from the part to the whole.

7. Create an "outside force" such as Training Centers with the long-term task of engaging the problem of improvement in the quality of instruction with particular attention to the first two years of a teacher's tenure.

Finally, a solution to the reward structure in education must be found for personnel at all levels. This is important because: In the last analysis it is people who change programs. The question is: "Why should they?"

VIII. SOME REFLECTIONS

Wil J. Smith and Frederick A. Zeller

Introduction:

Changes in inservice teacher education appear to be widely desired at this time by professional educators and by an important segment of the lay public. The feeling is widespread that the quality of the output of education is substantially below acceptable levels in a technologically oriented society.

Although probably an oversimplification, there appears to be a consensus that the failure of society to more effectively manage contemporary events is, in large degree, attributable to the fact that today's people are confronted by a massive explosion of social and physical knowledge. This new knowledge is unfolding at rates far in excess of the ability of traditional education to pass it on to the young. Hence, there is thought to be great need to expend resources to provide for the lifelong education of teachers in order to give them the means of keeping abreast of intellectual developments and the use of new educational technology. Conventional programs of preservice education cannot be expected to meet these needs. Preservice programs are, in some cases, described as producing products which are obsolete before the production process is complete.

Whether or not this is a realistic view of the state of the art in inservice education is another question. It could be suggested that our society has transferred an increasingly large number of social functions to the education institution (for example, the eradication of poverty and the implementation of equal educational opportunity policy--the right of all to quality education) and that education is, in a sense, being blamed for the failure of other institutions to deal meaningfully with evolving and emerging social problems. In addition, it could be argued that education, for one or more reasons, has lost its power to contribute to social growth as in the past. Its advocates and proponents are struggling to discover ways of halting the decline of its social influence.

Ideally, any investigation of change variables would have focused upon an examination of the results of empirical studies of inservice education and behavioral change. In attempting to determine change variables this would have been most advantageous in that the goals and results of alternative programs could have been compared relative to some measurement or starting point. However, for the most

part, this has not been done. There appears to be a diversity of well discussed views about the specific goals of education, but precious little agreement about the goals of inservice education. In addition, there is even less empirical evidence as to its effects. (Benjamin, p. 1)

Thus, most of the views cited can at best be labeled as impressionistic, or perhaps are conclusions based on stated or unstated value judgements. Nevertheless, it is believed that a review of the literature, supplemented somewhat by an attenuated analysis is a useful procedure for generating hypotheses which can be empirically investigated in the future when it is possible to control for specified educational goals.

Conceptual Model:

Behavioral change is most likely to occur as the result of complex relationships involving the actors whose behavior is of primary concern (in this case the primary and secondary teachers), the environment in which they are acting (made up of school administrators, public opinion, students, other teachers, etc.), and the intensity of the relationship between the actors and the environment (i.e., the quality and quantity of the relationship between the actors and the environment). Several examples of dimensions of these broad classes of variables might be useful.

If there is an urgency for teachers to change their professional behavior they will be more apt to change it than if there is no urgency to change. In turn, their perception of the need to change will vary with such factors as: (1) the presence or absence of internalized needs to keep pace with changes in educational technology, (2) keeping the institution of education in line with their own and society's changing expectations of it, (3) the opportunities for change and, (5) the types of social and economic rewards related to change. In turn, these variables interact with each other. For example, if income and professional status encourage change, there are more likely to be greater opportunities for change and a higher value placed upon it by teachers.

While these examples are complicated enough, they suggest that the behavioral change of teachers is related only to variables which operate within the education institution. To the extent this is true they do not illustrate reality for many teachers in the profession at any given point in time. To cite only one example. If participation in inservice education is strongly rewarded and non-participation severely sanctioned, then an individual's calculation of the value of meaningful change, as an educator, may include estimates of the returns to be had from alternative employment.

Or it might affect his tenacity in insisting on specific inservice programs which may or may not have anything to do with the particular goals being sought in a school district by the policy-makers in the district.

Thus, viewed abstractly, the success or failure of attempts to change traditional inservice teacher education programs depend upon a wide variety of variables, including the individual teacher as a professional, the school system in toto, the community, and the state of alternative labor markets in which the teacher is most likely to become a competitive participant. Unless these and other variables can be controlled, the reasons for the success or failure of any given inservice education program cannot be known precisely.

On the other hand, the state of society (by definition) usually approximates equilibrium. Therefore, certain trends should be operable and observable as tendencies by astute students of society, whether or not they are using methodology which clearly reveals the details of social action. While one might not want to pay too much attention to the details of a literature based on less than reasonably adequate hypothetical specification of relationships of variables as well as statistical measurement, that literature ought to reveal broad trends and lend itself to insightful inferences.

It is recognized that the conceptual model presented in the following is quite sketchy. However, it should be helpful in revealing the types of variables most likely to be identified and the use to be made of them.

Needs of the Teachers for Inservice Education:

As one would expect, the extent to which teachers feel a need for inservice education is thought to be significantly related to their acceptance of new programs. However, it was found that teachers perceive such needs for different reasons. Obviously, this may call for quite different kinds of programs and different methods of selecting participants to become involved in these programs.

There are numerous references in the literature to the need for new programs to change the output of the educational institution from what it is at any given time to a level and quality of output which is more closely aligned with contemporary social expectations and needs. (Bishop, Lewis, Moffitt and others) Goals which give rise to the need to upgrade the quality of educational experience for the students include the following: to contribute to more complete student development; to maintain pace with the ever-accelerating

knowledge explosion, and to graduate students who are familiar with the important and constantly changing position of the United States (and its people) both with respect to international and domestic affairs. Thus, it is suggested, at least in part, that inservice programs are necessitated by the constant fluctuations in the goals of primary and secondary education. If this is so new inservice programs probably would be welcomed in proportion to the extent to which the new goals are understood and agreed upon by teachers--other things being equal.

Other needs for inservice education programs are related to the widespread requirement for participation in them in order to acquire and retain certification, promotions and professional status (Dickson) and the necessity of new teachers in a system to acquire knowledge about their organization and its policies, about the nature of the community in which it is located (Childress; Hunt; Kinmick), and about the likely future social roles of the students who will be graduated. (Flanagan)

While the extent to which teachers feel a need for inservice education is of crucial importance for the success of new programs, planning such programs solely in terms of goals stated as broadly as these probably would be a mistake in most cases. Inservice education must be related to the specific needs of teachers, as they view them (Kinmick; Parker), and the teachers must believe that they can move from ideas to action in the classroom--that is, that the results of inservice programs can actually be used in experimentation and demonstration in the classroom. (Parker) All too often, it would appear, teachers have participated in inservice programs and, subsequently, have discovered that they were unable to change classroom procedures and practices because the new ideas and procedures were in conflict with the attitudes and the expectations of administrators and/or community residents.

Apparently to insure that inservice education is more clearly and closely related to the strongly felt needs of teachers, they have increasingly demanded a larger voice in planning and implementing programs relative to school administrators and spokesmen for the general public, such as board members. (Cartwright; Corey; Richey; and others) Not entirely surprisingly, these demands have met with more than a little success. Indeed, it is now possible to state that whether a new inservice program meets with success or failure is clearly related to whether or not those in whom behavioral change is sought are integrally involved in designing and carrying out the programs attempting to change their behavior.

It is interesting to speculate as to why this appears to be true in general. One reason might be that our society has increasingly accepted the principle of democratic decision-making when important decisions are made. At least one would prefer to think that this is the reason. However, it also appears true that most of the movement in this direction occurred during the particularly favorable period of the 1950's and 1960's. During this time a general teacher shortage existed because too few teachers were being graduated and/or the rate of mobility of teachers to other occupations was high because of general shortages of college-trained people in a fairly dynamic and prosperous economy.

Whether or not teachers, administrators, and others can jointly plan more effective inservice programs, however, does not depend only upon the fact that all interests are represented. The literature recognizes, though without much sophistication, that the behavioral change quality of such joint efforts depends critically on the extent to which such parties approach a "group" relationship, a relationship in which different people have different roles but nonetheless value other group members and feel a sense of interdependence with them. Because of the emergence of this need during a period in which the interests of an increasingly large number of groups came to be represented in the design and conduct of inservice efforts, it sometimes appears in the literature that efforts to achieve "groupness" or "interaction" more than occasionally came to prevail over efforts to accomplish substantive educational change. While empirical data are not available to confirm or refute this possibility, future study for the purpose of inservice program evaluation should attempt to deal with the question of how much "groupness" is productive of substantive educational progress. Several recent studies including that of Silberman conclude that many master plans for education "mask an absence of serious thought or substantive change." (Silberman)

Opportunities for Inservice Education:

It is widely recognized that a large number of groups must provide support and encouragement for new programs of inservice education. Meaningful participation in such programs depends importantly on the support and encouragement they are given by school administrators, community residents, university and college faculty and staff, and the professional educational societies. (Blick; Goodlad; Mauker; Moore; and others)

With respect to the content of inservice programs, it is recognized that ultimately the local school administrators and the community residents make the decisions. At the same

time, however, it is probably true that the decision-makers will make the best decisions if they have at their disposal the most advanced information about educational problems and opportunities available. This seems reasonable and, hence, is advanced as a significant variable in changing traditional inservice educational procedures.

With respect to the administrators and the community residents, and apart from matters of program content, it has been suggested that inservice programs must have adequate resources: (1) to free participant teachers from economic worry (i.e., inservice education should be done on school time), (2) to provide appropriate physical conditions (Moffitt; Otto) and, to make available "outside" expertise to plan and carry out new programs. (Parker)

Colleges and universities, of course, have roles to play in any inservice education program concerned with change. These institutions of higher learning must provide preservice education programs which will encourage the development of a felt need among teachers to accept inservice development as a personal obligation, colleges and universities must implement new inservice programs and assume a greater measure of responsibility for the design and conduct of career-long educational experiences for their graduates and other teachers in their geographical areas.

There is, however, comparatively little support in the literature for the typical off-campus credit courses offered by colleges and universities. Apart from criticism of their content (which is viewed as fairly traditional), these courses are thought to be relatively unimportant to the colleges offering them in the sense of their return to the colleges' academic standing and, hence, relatively weak in terms of any content and educational inspiration. It is entirely possible that much of the criticism of the off-campus credit courses is due to their failure to meet specific classroom needs. Nor are they generally taught by people who view inservice work as having high value to them (i.e., devoting substantial amounts of their time, interest and energy to such work, and being evaluated in terms of success or failure of that work rather than according to its value relative to some alternative activity).

It would appear appropriate at this point to suggest that it might be worthwhile for the colleges and universities to establish education centers which have research capabilities to determine the needs of primary and secondary teachers, access to resources both inside and outside higher education relevant to those needs, and the means of bringing them together in <u>ad hoc</u> relationships. Hopefully, if such an effort

was attempted it would be objective in origin, implementation, and evaluation, and not responsive to political forces which attempt to influence and control education policy at any given level of society.

Techniques of Educational Innovation:

Even when teachers feel a need for inservice education and perceive realistic opportunities for satisfying that need, new programs may fail if they are not designed and developed carefully. (Flanagan; Leep; Lewis) Flanagan suggests that the following techniques be employed in making educational innovations:

1. provisions for discussions with school staff, parents and pupils concerning the implications of the change--such discussions should give both information about the change and obtain reactions to it which might result in modifications of the new program;

2. presentations of the new program to educational administrators and supervisors, pointing out possible changes in costs and benefits;

3. introduction of the change to a relatively small number of students by teachers who volunteer to engage in the experiment followed by prompt evaluation of the results--such teachers would be prepared for the experiment by a special training program;

4. follow-up efforts with supervisors to insure that the new program gets a fair trial in its intended form;

5. provision for rewards to teachers and students for sought after behavioral changes;

6. careful evaluation of the new program in terms of both intended and unintended positive and negative behavioral change and determination of why the observed changes occurred;

7. gradual extension of program successes in the school system.

Flanagan's suggested techniques, for the most part, really do little more than summarize many of the ideas presented previously. To maximize the success of new programs, it is vital that the need for them exists among

all parties who can significantly influence the outcome, that skills for trying them be created, that actual attempts at classroom change be permitted, and that the results of classroom change be measured through scientific evaluation. However, it is worth noting Flanagan's suggestion that initially educational change should be attempted experimentally on a small scale and then, after success is established in behavioral terms, extending the change more broadly. This would appear to be a particularly valuable strategy when the educational innovation and environmental conditions are not well known by those attempting to make the change.

The establishment of the success (or failure) of new programs is heavily dependent upon the use of evaluation techniques which include a number of elements commonly associated with the process of research. For the most part, the preservice education of teachers makes little provision for this kind of work. Nevertheless, efforts at evaluation focus on the consequences of behavior and if the evaluation is done by those attempting classroom changes (i.e., the teachers themselves) they are in a position of directly determining the results of inservice education and, presumably, this could heighten interest in such programs as well as produce more precise suggestions for efficient change. As a result of this factor, it has been claimed that evaluation and action research should be used much more extensively in inservice education. (Moffitt) The use of evaluation is within the intellectual grasp of most teachers and, seemingly, could serve as a very useful means of planning and implementing new inservice programs.

Size of the School:

Finally, another variable thought to affect the nature and rate of introduction of new inservice education programs is the size of the school organization for which the program is intended. Gilcrest and Fielstra summarize the situation aptly as follows:

> "For the most part, a good organization for inservice education in the single school or in a small school district is good for a city school system as well. The large school systems, however, face problems which are particularly their own and which become increasingly severe as the number of separate school units in the system increases. In the first place, the problem of identifying the concerns of teachers and enlisting the aid of large numbers of them in the planning of activities becomes increasingly difficult. At the same time, as a city system grows, there is increased need for an inservice program that

> will promote common purposes throughout the system. The greater the number of people involved, the more difficult it becomes to arrive at common understandings of goals and the methods of reaching them." (Gilcrest)

Some sociologists describe the function of the social system as that of maintaining a workable balance between the individual and his environment. In recent decades, apparently more than ever before, more and more of the responsibility for performing this function has fallen to the primary and secondary schools and, consequently, the teachers in these schools.

Inservice education can play a major role in preparing the teachers to more completely fulfill the new functions that society has thrust upon them.

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